Medical Times

A Monthly Journal of Medicine, Surgery, and the Collateral Sciences

Vol. XLI., No. 8 NEW YORK, AUGUST, 1913 One Dollar a Year Fifteen Cents a Copy

BOARD OF CONTRIBUTING EDITORS

WM. G. ANDERSON, M. Sc., M. D., D. P. H...New Haven, Conn.
JAMES A. BABBITT, M. D.....Philadelphia, Pa.
SETH SCOTT BISHOP, M. D., LL. D.....Chicago, Ill.
T. D. CROTHERS, A. M., M. D.....Hartford, Conn.
OSCAR DOWLING, M. D.....Shreveport, La.
KENNON DUNHAM, M. D.....Cincinnati, O.
W. L. ESTES, M. D.....South Bethlehem, Pa.
FRANK D. GRAY, M. D.....Jersey City, N. J.
ALFRED K. HILLS, M. D.....New York
NATHAN JENKS, M. Sc., M. D.....Detroit, Mich.
HOWARD LILIENTHAL, M. D.....New York
STEPHEN H. LUTZ, M. D.....Brooklyn, N. Y.
ROBERT T. MORRIS, A. M., M. D.....New York
GEORGE THOMAS PALMER, M. D.....Springfield, Ill.
JOHN PUNTON, A. M., M. D.....Kansas City, Mo.
MAJOR IRVING W. RAND, M. D...U. S. A., Fort Hancock, N. J.
CHARLES S. ROCKHILL, M. D.....Cincinnati, O.
GEORGE G. ROSS, M. D.....Philadelphia, Pa.
DUNBAR ROY, M. D.....Atlanta, Ga.
DUDLEY A. SARGENT, M. D.....Cambridge, Mass.
ALBERT H. SHARPE, M. D.....Ithaca, N. Y.
JOHN P. SPRAGUE, M. D.....Chicago, Ill.
ALMUTH C. VANDIVER, B. Sc., LL. B.....New York

General Scientific

TYPHOID FEVER: ITS IMMUNIZATION.*

A. C. HEFFENGER, M. D.

PAST ASSISTANT SURGEON, RETIRED, U. S. NAVY,

Portsmouth, N. H.

Typhoid fever without doubt is surpassed by no other disease in importance. The robust as well as the weak are its ready victims, and in its long course, tedious convalescence and frequent fatality, it stands practically alone. Finally the convalescent and apparently well person is a source of danger to the community for an unknown period.

The Bacillus Typhosus, discovered in the 80's, is the cause of the disease, and our knowledge of the method of its transmission being now exact, its prophylaxis is assured.

The bacillus has been found in the blood, bile, urine and feces, and also in the upper intestinal tract and in the pus of osteomyolitic bones. During the earlier part of the disease it is difficult to find it, but after the second and third week, its presence is generally demonstrated, and it may persist for many years after the clinical recovery of the patient. It is often found in the urine and feces of persons in apparent health, and who have never been known to have had the disease. These persons are called "contact carriers," while those exhibiting the bacillus months or years after a known attack are called "typhoid carriers."

Failure to get blood cultures, or widal reaction in the first three weeks of typhoid, is no assurance of its non-existence, and the physician must rely mainly during the first weeks of the disease upon the clinical symptoms for a diagnosis.

At the annual meeting of the Rockingham County Medical Society in 1911, I spoke upon typho-bacterine immunization, relating my experience with the serum up to that time, and reading the 1911 circular of the Surgeon-General of the Army upon the subject. Since then I have continued giving the vaccine with universally satisfactory results, and feel more strongly than ever its great value.

Ninety-eight officers and men and eleven civilians have been immunized at Fort Constitution, and no cases of typhoid have occurred since its use. Several persons from other parts of New Hampshire have also been immunized. Immunizing vaccine as sold by manufacturers is a killed culture (heat and phenol). There is no successful antitoxic serum. A real antitoxic serum would be derived from immunizing an animal, and would not contain any typhoid bacilli, but only the serum-bodies directed against them. The immunizing doses of vaccine as used in the army and navy are as follows: Three doses at ten-day intervals. First dose ½ Cc. or 7½ minims, 500,000,000 killed bacilli. Second and third doses 1 Cc. or 15 minims, 1,000,000,000 killed bacilli. The entire course thus necessitates 20 days. The War Department circular No. 4, 1911, abstract states, "An interval of 10 days between doses has been adopted, because experience shows that nothing is gained by giving the doses closer together. The production of large quantities of specific anti bodies does not become evident until about eight to ten days after administration; the second dose is therefore not given until the first has become effective, since there may be a temporary fall in the quantity of protective bodies present in the serum after the administration of the second and third doses. It is not believed that there is any increased susceptibility to typhoid fever following the first dose. On the contrary, it is thought that increased resistence begins immediately, although the degree of immunity produced is not very high until after the lapse of ten days.

If it is not convenient to give the second dose at the regular time it may be hastened a day or two or be postponed up to the fourteenth day, but good results cannot be counted upon after longer period of time.

The site of the inoculation is the arm at the insertion of the deltoid muscle. The dose is to be given subcutaneously, and not into the muscles, nor into the skin. The arm should be cleansed as for any other operation. The use of Tr. iodine diluted with an equal volume of alcohol has proved satisfactory as a skin disinfectant. The dry skin is painted with the iodine before and after the hypodermic injection. The glass container should be washed off in an antiseptic solution and opened after making one or more cuts near the top with a file.

*Read at 122d annual meeting of the New Hampshire Medical Society at Concord, May, 1913.

Cactina Pillets are especially serviceable for correct-

The prophylactic can be drawn out of the container with the syringe, or it may be emptied with a salt cellar which has been sterilized by boiling. The syringe and needle should be sterilized by boiling in two per cent. soda solution. To insure perfect sterilization draw the piston out to its full length, or remove it entirely, so that the barrel is full of water during boiling. A fresh needle should be used for each man, or, if one needle must be used on two or more men, it must be plunged into boiling soda solution to resterilize it before each injection.

No person should be immunized who is not perfectly healthy and free from fever at the time. In case of doubt it is advisable to take the temperature and to examine the urine. If the man has fever or any other signs of illness, the prophylaxis should be postponed until he recovers. This precaution is necessary to avoid its administration to men who may be coming down with typhoid or other fevers. The men should be cautioned not to drink beer or alcohol in any form on the day of treatment.

This prophylaxis is borne well by children and by women, using doses proportionate to the body weight, taking 150 pounds to the unit. Women should not be given the first dose during or near the time of the menstrual period.

The most suitable time for the administration of the prophylactic is about 4 o'clock in the afternoon, as the greater part of the reaction is then over before morning. There is usually some headache and malaise and local reaction consisting of a red and tender area about the size of the palm of the hand, and sometimes tenderness in the axillary glands. The entire reaction is over in 48 hours. It is best not to require any duty for that period, nor to permit active exercise, such as long rides or walks.

Some individuals may be very susceptible and develop a marked general reaction (headache, backache, nausea, vomiting, herpes labialis, rarely albuminuria, and some loss of body weight). The number of such reactions is exceedingly small, and regardless of their severity they all as a rule disappear completely inside of 48 hours. If any severe reactions should occur a report upon them in detail is desired.

The widal reaction is always positive after typhoid prophylaxis; it appears in about ten days after the first dose and remains positive for six months to a year. This fact must be considered in diagnosing typhoid immunized persons; they give a positive widal regardless of the nature of the illness, and the reaction is consequently of no assistance in making a diagnosis. *If typhoid is suspected the diagnosis should be confirmed by blood culture.*

The general profession in some quarters is using smaller doses in four inoculations at five day intervals, initial dose 50,000,000, increased gradually to a maximum of 300 and 400 millions.

No opportunity having occurred for trying the antitoxic serum, its value in the hands of others can only be given. Its use is yet in the experimental stage, and the verdict so far is a Scotch one.

Vaccine for this use should invariably be autogenous. The therapeutic dose is from 40 to 125 millions progressively increased. It can be obtained in single glass syringes or in ampuls. Its use has certainly lessened the number of typhoid bacilli in the blood and excreta of patient, and theoretically should aid in controlling the cause of the disease and lessening the danger of the typhoid carriers.

Six cases of typhoid fever were treated with the antitoxic serum at the Naval Hospital, Philadelphia, Pa., with one death, conclusion negative.

Acute interest in anti-typhoid vaccination in this country dates from its brilliant results in the army mobilized along the Southern frontier, and in Texas during the summer of 1911. A division of troops, about 20,000 men, remained in camp, or were on march for over four months. When these men were mobilized, an order for compulsory vaccination against typhoid fever, was issued, men over 45 years of age being excepted. The vaccine was prepared at the Army Medical School. This vaccine consists of a suspension of dead bacilli in salt solution to which is added 0.25 per cent. of tricresol as a measure of safety. The vaccine is accurately standardized by counting the bacilli. As a result of this compulsory order, only two cases of typhoid occurred, one in Texas and one in California, both ending in recovery. In 1898, during the Spanish war, 10,759 troops were encamped at Jacksonville, Fla., among whom were 1,792 cases of typhoid, with 248 deaths. This camp lasted practically as long as that at San Antonio in 1911, and contained about 2,000 men less. Both camps were in about the same latitude and both were supplied with artesion well water, yet in 1898 there were nearly 2,000 cases of typhoid, with 248 deaths, and in 1911 there was only one mild case. This immunity was not due to lack of exposure, as typhoid fever prevailed in and around San Antonio at that time, and the men were permitted to visit the city. This circumstance is conclusive evidence of the marvelous value of anti-typhoid prophylaxis. Up to the present time nearly half million doses of army vaccine have been given, and no bad results have been reported.

To quote Major Russell, U. S. Army:

"Two crucial questions in regard to antityphoid immunization have been propounded: First, what is the duration of the immunity; and second, is it absolute? In answer to the first: our own experience dates only from 1909, and is therefore too recent to be of value. The British army, however, is rich in observation, and Colonel Firth, R. A., of the British India Army has had a most extended experience, and he believes that immunity begins to diminish in about 2½ years after inoculation. His tables show that after four or five years, the maximum period of observation, the rate per thousand among the immunized is only fourth that of unprotected troops.

In answer to the second, while immunity is not absolute, as shown by the fact that of 80,000 persons immunized in 1911 in the army there were twelve cases of typhoid, with one death (due to intestinal hemorrhage), and in 1910 there occurred six cases, with no deaths; had there been no vaccinations there would have been at the prevailing rates of incidence about 250 cases. While immunity is not absolute and may fail to give protection after a certain period, that does not militate against its use any more than in the case of vaccination against smallpox. It is the practice in the army at present to revaccinate against both smallpox and typhoid at the beginning of each three year period of enlistment. Personal equasion is a factor in immunization. Idiosyncrasy may prevail against protection of vaccination, the individual failing to develop the usual anti bodies. Again, inefficiency of vaccine, or exceptionally virulent or very large quantities of infective material may nullify results. Typhoid immunization is compulsory in the Navy also, and the same rules governing its use in the Army are observed. The Surgeon General of the Navy reported to Congress in December, 1912, that not a case of typhoid fever had ap-

peared among the 40,000 men of the Navy since the introduction of typhoid immunization eleven months before.

Major F. F. Russell, U. S. Army, the best American authority on anti-typhoid immunization, gives the following summary in regard to it:

1. Anti-typhoid vaccination in healthy persons is a harmless procedure.

2. It confers almost absolute immunity against infection.

3. It was the principal cause of the immunity of our troops against typhoid in the recent Texas maneuvers.

4. The duration of the immunity is not yet determined, but it is assuredly two and a half years, and probably longer.

5. Only in exceptional instances does its administration cause an appreciable degree of personal discomfort.

6. It apparently protects against the chronic bacillus carrier, and is at present the only known means by which a person can be protected against typhoid fever under all conditions.

7. All persons whose profession or duty involves contact with the sick should be immunized.

HEREDITY AND EUGENICS.*

L. MERVIN MAUS, M. D.,

COLONEL, MEDICAL CORPS, U. S. ARMY; CHIEF SURGEON OF THE EASTERN DEPARTMENT,

Governor's Island, N. Y.

I came here to-day to extend to the graduating class the hand of fraternal fellowship to medicine, the most altrustic profession the world has ever known. Medicine, which is one of the noblest and most ancient callings of mankind, reaches back to the earliest dawn of history. Long before the days of Hippocrates, temples were dedicated to the healing art, over which Grecian and Egyptian gods presided, besides many of the most celebrated philosophers and sages of antiquity. Among its apostles were enrolled the greatest human characters that ever lived, thousands of whom have sacrificed their lives upon the altar of duty. Even Christ, the Divine Teacher, came as the Great Physician to cure the maimed, halt and blind and to redeem the world from its moral and physical degeneracy.

Much has been accomplished during the past few generations for the benefit and improvement of the world through medicine and the allied professions. It was only several years ago, comparatively speaking, that the terror of the operating table was removed through general and local anaesthesia, and but a few years later the discovery of wound infection and asepsis, which made Lister immortal.

These were shortly followed by many brilliant discoveries in the field of biology, which laid bare the secrets of microbic infection hidden since the dawn of creation. As a result of the Army Yellow Fever Board in Cuba, that dreaded scourge of the south has been eliminated and the West Indies and Central America made habitable. Diphtheria, the very name of which less than a generation ago, made the young mother quake with fear, has been conquered through the beneficence of serums and antitoxins, and typhoid fever, the scourge of army camps and the annual destroyer of thousands of our young men and women, has at last succumbed to the blessing of vaccination.

Plague, which devastated Europe during the middle ages, and until recently has been the fatal pest of oriental cities, is now controlled by the destruction of rodents, which carried the hosts of the infectious bacillus. Tropical anemia and its association with the hook worm, which rendered seventy-five per cent. of the natives of Porto Rico and a large proportion of our southern states apathetic and unfit for labor, is rapidly disappearing, as well as beri-beri malaria and a host of other diseases, whose etiology until recently was not understood.

In the brief period at my command it would be impossible to review the triumphal march of our profession through the fields of medical discovery, and recount its great victories over disease and death. As a result of the patient laboratory investigators, who are the real heroes of the world, life has been doubled during the past two or three centuries, and the probabilities are growing with the study of eugenics, that it will be increased as much again within the next century or two. The length of human life in Europe during the 16th century averaged from 18 to 20 years, while to-day it has risen to 45 or 50 years. The longevity of a nation depends principally upon the character of its civilization and habits of the people. It is a significant fact that Sweden, which is the most temperate nation in the world, enjoys the greatest longevity, while that of beer drinking Germany stands among the lowest. When the enemies of health are conquered, a hundred years will be regarded as the acme of maturity and old age will not be considered before man has passed the hundred and fiftieth milestone on the journey of life.

Naturalists claim that the longevity of animals should be computed by multiplying the growing years by five. Man grows until he reaches thirty and hence under normal conditions should average one hundred and fifty years. For ages health officers have been waging a war against cholera, plague, tuberculosis, typhoid fever and other fatal diseases, which result from virulent germs of protozoa. To-day the profession of medicine is turning its attention to the evil spawn of mankind, which is expressed by the mental and physical wrecks found in our hospitals, prisons, jails, reformatories and insane asylums.

Preventive medicine means more than vaccination against disease, disinfection and sanitation. It means as well the study of heredity and practice of eugenics, subjects which every physician should consider, who is anxious to contribute his share to the prevention of disease and improvement of the race. The splendid work of Darwin, begun half a century ago, on the origin of species by selection, has stimulated the study of heredity and strengthened the dream of the eugenist for the attainment of an ideal race. More than 2,000 years ago Socrates concluded the best way to develop a perfect race was to begin with children ten years old and banish all others from the country. Singularly enough, an intelligent Filipino told me a few years ago that decapitation of all his countrymen over ten years old would become necessary before anything could be done for his degenerate race.

The fundamental factors in the development of the family and race are heredity, training and environment, which are known as the triangle of life. While training and environment are essential to the formation of character and physical development, heredity will ever remain the determining factor of the three and be regarded as the base of the triangle. Dr. Davenport defines environment as what we have—training as what we do—and heredity as what we are. Environment and training may result from the fortuitous circum-

*An address delivered at the thirty-fourth annual commencement of the College of Physicians and Surgeons, Boston, June 11, 1913.

stances of life, which are ever changing, but heredity is fixed by immutable laws and defies the intervention of man. The excellent results which have followed breeding and the mingling of select strains among animals and plants have been known to science for ages and it seems singular that these principles have not been applied to the improvement of the human race.

Voltaire said nearly two centuries ago, "If as much care were taken to perpetuate a fine race of men as to prevent the admixture of ignoble blood in horses and dogs, the genealogy of everyone in the world would be written on his face and displayed in his manners." No one who understands the laws of heredity can expect sound, healthy and intelligent children from unsound and degenerate stock. Jesus was aware of this fact when he said, "A good tree cannot bring forth evil fruit neither can a corrupt tree bring forth good fruit." When the general public learns that the diseases and evil traits we possess were transmitted by those who are moldering in the grave, thousands of defective sons and daughters will curse the memory of their dead parents who fastened upon them the seeds of degeneracy.

Statistics inform us that two and a half million babies are born annually in the United States who are feeble minded, epileptic, deaf, dumb, blind, insane or otherwise degenerate as a result of heredity. Owing to previous lack of interest in such statistics it is impossible to present accurate figures, but it is probable that nearly all of our mental and physical degenerates and criminals result from heredity, or the "racial poison," alcohol. The effects of heredity are markedly shown in the mating of epilepics and the feeble minded, the progeny of which are invariably epileptics, feeble minded or both. Bulletin No. 4, Eugenics Record Office, 1911, states that of five epileptic matings, from which 14 known children resulted, 8 were epileptics and 6 feeble minded, and from 6 feeble minded matings with a progeny of 21 known offspring, 16 were epileptics and 5 feeble minded. Two mentally defective parents will produce only mentally defective offspring, and no imbecile is born except from imbecile parents. This law has been demonstrated through the study of scores of families at the Training School for Defectives, Vineland, New Jersey. It has also been found that many strong persons carry defective germ plasm, which may not show itself in the progeny unless united with germ plasm of other defective families. Hence there is the greatest danger in the consanguineous matings of such families.

The study of embryology has taught us that reproduction of the human organism results from the union of the ovum and spermatozoon, and that during this complicated process the network of the nuclei of the two cells are changed into an equal number of chromosomes, which are regarded as the bridge over which the stream of heredity passes. Besides the chromosome theory of heredity we have the bio-chemical theory, which has many strong advocates. In support of the chromosone theory it will be remembered that they develop from the nuclei, which are the only portions of the two cells which take part in fertilization. The influence of good stock may be illustrated by the descendants of three remarkable families, whose distinguished qualities have contributed so much to the organization, growth and character of our people and country. The progeny of Elizabeth Tuttle, a rarely gifted woman of Massachusetts, who married Richard Edwards in 1667, includes scores of brilliant educators, jurists, divines, inventors and literary characters. From Richard Lee and Laetitia Corbin, of Virginia, have descended an illustrious line of statesmen, military leaders and cavaliers, while from John Preston and Elizabeth Patton of Kentucky have been derived many famous jurists, divines and military leaders.

The intellectual and noble progeny of the Edwards, Lees and Prestons stand out in marked contrast to the defective and criminal progeny of the "Jukes family" of New York and "Ishmaelites of Indiana," whose descendants for five generations have filled the insane asylums, prisons, poorhouses and brothels of the communities in which they lived and cost their respective states millions of dollars. At the beginning of the twentieth century 1,394 descendants of the eminent divine and educator, Jonathan Edwards, the grandson of Richard Edwards and Elizabeth Tuttle, were identified. Among the progeny of this remarkable man were found 13 presidents of colleges, besides principals of many educational institutions, 60 physicians, many of whom were eminent, 100 clergymen, missionaries and theological professors, 75 army and navy officers, 100 lawyers, 30 jurists, 6 prominent authors and 3 United States Senators. Besides these many members of Congress, framers of state constitutions, diplomats, mayors of cities, presidents of railroads, banks and insurance companies, and others engaged in important manufacturing and commercial enterprises. It is not known that any member of the fraternity was ever convicted of crime.

In striking contrast to the Edwards family, stands out prominently the progeny of the Jukes family, which has been traced back to the union of two sons of Max Jukes, a besotted and indolent backwoodsman of Western New York, with two indolent harlot sisters, one of whom was known as "Margaret, the mother of criminals." The progeny of these degenerate families includes over 1,000 descendants, 540 of whom were identified in 1877. Dugdale discovered that about one-third of this family died in infancy, 310 were paupers who spent 2,300 years in almshouses and 440 were physical wrecks. Over one-half of the women were prostitutes and 130 convicted criminals, 7 of whom were murderers. Not one of the entire family had a common school education and only twenty learned trades, ten of whom died in prison. It is estimated that this family up to 1877 cost the State of New York $1,250,000, and it is more than probable the sum has been doubled since then. A most convincing argument of heredity may be found in the progeny of "Martin Kallikak," of New Jersey, who unfortunately has furnished a control experiment. During the Revolutionary War, Kallikak, a man of fine physical type, took advantage of a feeble minded girl, who bore him a feeble minded son. This son married and became the progenitor of 480 known descendants, 143 of whom were feeble minded, while the remainder fell below mediocrity. After the war he married a Quaker girl of good ancestry, from whom 486 descendants have been identified. All of the progeny of the second mating have been found of normal mentality, except two, who were classed as sub-normal but not feeble minded. While the introduction of other streams of germ plasm doubtlessly influenced the character of these two lines, it is more than probable that the defective germ plasm of the feeble minded Revolutionary mother was responsible for the mental defect fastened on 143 of her progeny.

Marriage qualifications are attracting general attention throughout the country and the day is fast approaching when the health certificate will become as necessary as the marriage license. Many progressive ministers of the gospel already require such certificates before performing the wedding ceremony, and it is hoped, in the interests of the race, that it will become a

general law during the present generation. Marriages are regarded from many standpoints, as a climax of love, union of property interests or to fix the social status, but rarely from the standpoint of sound, healthy children. Regard it as you may, marriage is a serious matter and everyone who contemplates such a step should look well into the mental and physical qualities of the prospective family of in-laws, remembering that the son or daughter is a chip from the same block. Good stock does not mean only the children of the wealthy and prominent families; it means the progeny of the sane, moral, mentally and physically sound, which is a lineage greater than that of a king. As race builders we are responsible for those who follow, and as patriots should adopt for our war cry a sane and healthy nation. The country needs the progeny of the moral, mentally strong and virile for the upbuilding of a race of people who should become the great leaders in the world.

Many of the States have already passed laws forbidding the mating of the insane, feeble minded, imbeciles, epileptics, drunkards, narcotic addicts and those afflicted with venereal diseases. Laws have also been passed in California, Indiana, Nevada, New Jersey, New York and Washington, legalizing the sterilization of the defective, pauper and criminal classes. The great Creator suggested the enactment of such a law when he sentenced the defective husband or wife to a childless life. No one should be permitted to marry unless authorized by a board of medical examiners. Applicants should be pronounced free from all moral, mental and physical conditions which affect heredity. Disqualifying causes should include the alcoholic addict and sex violator just as well as the mental and physical defective.

Alcohol should be regarded as the most dangerous narcotic the world has ever known, and its addicts degenerates, just the same as those who use morphine, cocaine or other dangerous narcotic drugs. Research, experiments, the epileptics and feeble minded institutions, insane asylums, prisons and the post-mortem table constantly teach us what alcohol is doing for the human race. There remains no longer any doubt of the special and general results of the great "racial poison" on child, man, race or community. Few people understand the far-reaching effects of alcohol on the family, and the race at large. It is an intricate and difficult problem to approach on account of its social connection with many of the most prominent and influential men and women of the country, who still hold very liberal views concerning its use. The effects of alcohol on the intellectual and mental faculties generally have been made the subject of a most exhaustive study, and we find all of them lowered, even through its moderate use. This is the unanimous verdict of Kraepelin, Fürer, Hodge, Crothers, Fisher and other great authorities on the subject. From a careful study of vital statistics it has also been proven that alcohol even in moderate quantities shortens life, while total abstinence increases it. Besides its mental effects it is largely responsible for the diseases of physical degeneracy which are located in the brain, nervous system, heart, arteries, liver, kidneys and digestive system. From the tables prepared on heredity it has been noted that the children of drinking parents frequently suffer from forms of nervousness and erraticism besides the more serious diseases and conditions of degeneracy.

The distinguished dean of your faculty, Dr. T. D. Crothers, states that he has observed among 500 cases of alcoholism 225 with a distinct history of parental inebriety, while Dr. Norman Kerr, president of the British Society for the Study of Inebriates, informs us that he has observed among 1,500 cases of alcoholism 755 with the same unfortunate history. The child conceived by an intoxicated parent is never up to the child conceived by sober parentage, and rarely rises above mediocrity. While there is more or less immunity to the alcoholic addict, there is never immunity to the germ plasm which is invariably injured by the slightest dilution of alcohol in the blood. Dr. Stockard states that diseased and weakened germ cells give rise to defective individuals under all circumstances, while perfect germ cells produce a perfect offspring *only*, when the embryo develops in a normal or favorable environment. This fact has been demonstrated in alcoholic experiments with eggs of the lower vertebrates, which develop outside of the body. Fresh fish eggs, when exposed even to the fumes of alcohol, produced veritable monsters.

Racial degeneracy has overtaken the American negro since his emancipation in 1863. This is no doubt due to his change from total abstinence and healthy surroundings as a slave, to alcoholic dissipation and a poor environment as a freedman. Before the Civil War the negro was trustworthy, truthful and practically free from mental and physical blemishes, while to-day a large number of them are immoral, untruthful, indolent and degenerate. Besides, their longevity has diminished and criminal tendency greatly increased. German vital statistics have shown the defective results from alcohol (beer) among the sons of brewery employes, 76 per cent of whom were found unfit for military service. There can be no reasonable doubt but that the crime and degeneracy found among the lower classes of the English people are largely due to the general use of alcohol among both sexes. The mental and physical integrity of our nation until now has been preserved through the germ plasm of our high minded and intelligent American mothers who formerly rarely indulged in alcoholic beverages. To-day the growing tendency among young women to the use of cocktails and high balls is becoming the greatest menace of the age, and unless checked will lead to the generacy of our race, as is the case with France and other European countries where alcoholic beverages are in general use.

Following the general use of whisky as a beverage fifty years ago many of the most prominent and intellectual families of our country have been eliminated and not infrequently in the second generation. Many of their representatives became drunkards and died childless, or left children cursed with feeble mind, epilepsy, tuberculosis, insanity, or some other form of degeneracy, which rendered fertility impossible. Study the family records that have been gathered by the eugenist on the subject of alcohol and the thinking world will stand aghast. Among the statistics in my possession are many quite similar to the following: Judge C. and wife, superior people, with a family of four sons and three daughters. The Judge was an intelligent gentleman of the old Southern school, who took his toddies regularly and occasionally "went on sprees." He died during middle age. All of the sons were of ordinary mental calibre, became alcoholic addicts and died young, several of them as pronounced drunkards. One of the boys married and became the father of a feeble minded child. Two of the daughters died at a young age, one a morphine addict, the other from cancer. The third daughter, now an old woman, suffered from erraticism, which rendered her intolerable to society. Another equally significant family history: Mrs. J., a beautiful woman of healthy, moral family, was married at the age of twenty to a young man of

equal social standing, who drank regularly, as was the custom of the day, and on occasions became as "drunk as a lord." During his brief married life of twelve years his wife bore three sons and two daughters. All of the sons and one daughter became alcoholic addicts and died at any early age, while the second daughter became a morphine fiend and a sex violator. After the death of the first husband the widow married again, this time to a total abstainer of excellent character. Singularly enough she again bore five children, three boys and two girls, all of whom developed into splendid men and women and became valuable members of society. Prof. C. R. Stockard, of Cornell, recites the experience of a sober, industrious woman who married a man of high moral habits and became the mother of three normal children. After the death of this husband she married a man of intemperate habits and bore three more children, one of whom became a drunkard, one an epileptic and one a degenerate. She married again after the death of the second husband, this time to a man of fine type and became the mother of two normal children.

The role that alcohol plays in disease, pauperism, racial degeneracy and graft makes its control by the state absolutely necessary, and in order to save society the saloon must go. To accomplish this necessary reform no candidate for state or municipal office should be endorsed by the medical profession who had not stated satisfactorily his platform on the control of the three great social evils—prostitution, venereal disease and the saloon. Total abstinence should become a requirement of every official holding office within the suffrage of the people. The importance of the duties which lawmakers, judges, state and municipal officials, the army, navy and police are called upon to perform, demands the highest class of intelligence and efficiency, qualities which are impossible with drinking men. Besides the alcoholic addict is more liable to lend himself to graft and corruption in office than the total abstainer. The physician who strives for racial perfection must cling to total abstinence, for there can be no compromise on the great question of temperance. In order to build up a strong, virile people we must protect the young against the race poison remembering that the child of to-day is the citizen of to-morrow. At times you may be called upon to defend medicine against many irrational schools, cults and societies, and will be dismayed at the array of plausible arguments submitted in their defense. It seems impossible to realize that such a large body of educated people exist in the United States, who inveigh against vaccination for smallpox, which is one of the greatest boons ever conferred upon suffering humanity. In spite of the millions of lives that have been saved through the beneficence of vaccination, live societies exist to-day in our country which are endeavoring to prevent its practice by law. Such sceptics should go to our tropical colonies and investigate the wonderful results that have been achieved since 1898. Smallpox, which carried off thousands of the natives annually in Porto Rico and the Philippines before compulsory vaccination was enforced, has entirely disappeared.

Physicians should take an active interest in the affairs and politics of the community in which they live, especially in those matters which pertain to public health and the sociological condition of the people. They should be active in general sanitation, public education, the saloon and labor question, the social evil and venereal diseases, the condition of the poor and everything which concerns the welfare of the people. The present interest displayed in the study of heredity and the practice of eugenics indicates plainly that the world is on the verge of a great sociological revolution, which will prove more beneficial and far-reaching in its effects on humanity than its deliverance from feudalism and intellectual restriction of the middle ages. Never in the history of the world were strong and courageous advocates of eugenics more urgently needed than now. Live wires with progressive ideas, who are able to teach our young men and women the necessity of selection and elimination in marriage, in order to raise children who will prove a blessing to the famly and an honor to the country. With a full knowledge of the fearful results of heredity and alcohol, it becomes your bounden duty as physicians to impart these great lessons of life to everyone within the sound of your voice. Teach them that the child should be started right in its mother's womb and that after its birth trained in honesty, temperance and the highest standards of life.

If you remain faithful to your calling, within a few generations America will be blessed with a race of moral, mental and physical giants, and your lives will not have been in vain.

THERAPEUTIC PATHIES, CREEDS AND SECTS; THE MUSHROOMS OF SCIENTIFIC MEDICINE.

ANTHONY BASSLER, M. D.,
PROFESSOR OF CLINICAL MEDICINE IN THE NEW YORK POLYCLINIC MEDICAL SCHOOL; CHIEF GASTRO-ENTEROLOGIST TO THE GERMAN POLIKLINIK; VISITING GASTRO-ENTEROLOGIST TO PEOPLE'S HOSPITAL, ETC.
New York.

In writing this article I do not pose as a Hercules to cleanse the Augean stables of therapeutics. As a conscientious worker in medicine I am too deeply engrossed in matters pertaining to the physical welfare of the human being, and I recognize the fact that no power but that of a public conscience awakened to the prevalence of quackery and grafting in connection with the treatment of disease can clear away the accumulated filth. Nor like a Marc Antony can I claim either wit, wisdom or eloquence; but I write as a plain, blunt man on the "right of the things I do know" pertaining to the subject. Here is the astounding array, Homeopathy, Eclecticism, Osteopathy, Electrotherapy, Christian Science, Emmanuel Movement, Hydrotherapy, Chiropractics, Viteopathy, Magnetic Healing, Suggestive Therapeutics, Naturopathy, Massotherapy, Physio-Therapy—and a host of minor fads that are rainbow-hued bubbles but for a day. They come and go as Byron said some therapeutic fads came and went in his time. He spoke of the new things that astounded the people then, as it has been with

"Cowpox, tractors, galvanism and gas,
The bubble bursts and all is air at last."

It seems not amiss to again present the preface of an article of mine entitled, "The Fasting Cure Answered," published in the *Monthly Cyclopedia and Medical Bulletin* of June, 1911. "From the first era of medicine, which commenced with the dogmatic teachings of Hippocrates (B. C. 460-377) and of Galen (A. D. 130-200), through the empiric period, which began in the sixteenth century with the introduction of anatomy learning from experience and deduction from metaphysical assumptions, to rather recent times, when the establishment of medicine upon a scientific basis was inaugurated, about twenty-four hundred years have elapsed. During this long period, history records the birth, temporary acceptance and early dismissal of fads, fancies, cults, isms and pathies for the treatment of the sick almost as numerous as the days gone by in the course of the twenty-four centuries.

Of late years, the advancement of medicine as a scientific basis has rendered these fads somewhat fewer than in the immediate past, and in the last decade the writer can recall only 14 which have come and gone or are on the wane of their always short-lived popularity. Beginning with about five centuries ago, the stock of those which were particularly attractive or fetching to the lay mind ran out, and since then repetitions of old ones in new clothes have become the form. Not to be outdone, certain wiseacres then took this from one and that from another and seemingly built up a new one out of old bricks. But therapeutics under the cloak of religion has of late years been the most popular form and the most readily successful, and Christ and the divine teachings have been forsaken in the interests of personal ambition or sacrificed to the self-inspirations of some leader temporarily working on the ignorance of the followers. In nothing so much as in this subject, with its fascination for the lay public, are self-aggrandizement and the frailty of the human being so plainly evident. From on high, the Divine Creator must view the panorama of the centuries that have been and the world of to-day with a full realization of the fact that, in this matter, some have sunk most deeply in illustration of the Biblical phrase, 'the imagination and thought of man's heart are prone to evil from his youth,' and this at the expense of suffering brothers and sisters about them.

"Against these movements the medical profession, as a rule, has presented an indifferent front. This grandest and most useful of all bodies of public servants knows that the vast deal that is short-sighted and senseless in all of these fads, weighed against the aggregate of substantial good that they, as honest practitioners, distribute each day, means that the scales will turn in their favor when the brief period of hysteria is over. So they work justly and honestly on, to the best of their ability, taking no cognizance of these ill-considered movements, for the fact is always there that the world goes on with the medical profession as one of its most useful assets, as if nothing had led some of its people astray in the meantime."

With this presentation of the subject, we may take up in detail certain features connected with the masquerades of therapeutic fads and fancies and consider them in part. The publication of a small sized book of 225 pages, entitled "Organon of the Art of Healing," by Samuel Hahnemann, was sufficient proof for the world to accept a new school of medicine. The careful review of the fifth edition of this work, considered impartially, leads me to the conclusion that it is absolutely theoretical and dreamy, and not established on practical basis or knowledge of medicine in even the year that it was issued, namely, 1833. I beg leave to present certain portions of it: "During his primitive state of nature, man needed but few remedies, since the simple mode of living admitted but few diseases"—whence this positive bit of knowledge? Criticising the old school of medicine he states, "Tolle causam! is the repeated cry; but their achievements ended in that cry. They fancied they could find the cause of a disease but they did not find it, because it is unrecognizable and not to be found." Whereas a few pages afterward he states, "The true healing art is that of intellectual offices incumbent on the higher human mind, and free powers of thought, discriminating and deciding according to causes"—"how to reach this result is taught by the Homeopathic Healing Art;" what an unfair inconsistency since nothing concrete is presented. This was issued over seventy-five years ago and has stood as a sanction for the continuation of the homeopathic school of medicine. Nor is the sally against the divine creator to be forgotten as one of Hahnemann's makeshift. For instance, "it was high time that God mercifully permitted Homeopathy to be discovered"—perhaps God should have hurried a little. As a charlatan's presentment of divine wisdom, I offer the following: "Our vital force, with spirit-like Dynamis cannot be reached nor effected by a spirit-like (dynamic) process, resulting from the hurtful influences of hostile agencies from the outer world acting upon the health organism, and disturbing the process of life." That sounds very well, but on what rests the proof? As a ridiculous squib of "like cures like," he states that "measles bears a strong resemblance to whooping cough in regard to fever and the character of the cough." I ask the question, does having had whooping cough prevent the cough in measles? Another ridiculous assertion along these lines, "Chronic nasal catarrh is habitually treated by exciting the flow of mucous with errhines." It seems to me that it ought to cure. Nor is nature slighted in being taken advantage of; for instance, "the unerring selection of remedies is the only condition for which the speedy return of health of body and soul, the highest gift bestowed on man." Does nature deserve any credit whatever in this and must we entirely give the credit to the medicines? Altogether, the theory of the essential nature of the disease as presented by Hahnemann is in brief as follows: "The real disease is located in the immaterial, spiritual vital force. The corporeal changes are only products of the disease, a physical projection. This physical projection (signs and symptoms) is all that can be realized by the senses and therefore so far as the senses are concerned, it constitutes the disease itself, though it does not so in verity as a classification to all the diseases to which the human kin is heir to." To him there are two classes among the natural diseases. The first is designated by the term "acute," the second, by "chronic," subdivisions of the latter being "psora" (⅞ of all), "syphilis," "sycosis," and no others of that group. Next are the "drug diseases" (whatever they may mean), and this is the whole system upon which homeopathy is built; where are all the other diseases, and where is the importance of the laboratory, which is establishing medicine on a scientific basis, not to speak of the whole field of surgery? The advance of medicine has proven without a shadow of doubt that the bases of homeopathy are myths, and that the world was misled in accepting them. Where is the homeopath to-day who gives 1/1000 gr. morphine to allay pain. In my observation, they carry ⅛ and ¼ gr. tablets of this drug in their hypodermic cases. If surgery had not come along to help out the homeopathic school (and they accepted it very reluctantly, because it was against their principle of healing), homeopathy would have died a natural death 25 years ago. Fortunately, for their graduates, they have accepted the standards of the old school, the laboratory, surgery, and otherwise, and that is what keeps them alive to-day. It is truly unfortunate, however, that full-grown men who present themselves as workers in the art of medicine continue the masquerade nom de plume of homeopathy, and make commercial pabulum of it.

Eclecticism is more recent in origin than homeopathy, but has practically the same excuse for existence. Its system is the broad one of obtaining medicines from whatever source possible, and "the earth, air and water" were the catch-words of the eclectics cry. Do not understand that when this school was established the regular physician had drawn any sharp lines as to where he would obtain his remedies. On the contrary, the regular school men had practically canvassed the world

in search of remedies and accepted them whatever their source. This catch idea of eclecticism has kept it going for quite a few years, but fortunately it is on the wane. Eclectic schools being so far below the standard of the regular schools will no doubt slowly cause the eradication of this sect. Since the establishment of the eclectic school, there have been a number of others, and regarding these, all of which have even less grounds for establishment than the afore-mentioned, I will address myself to only two—Osteopathy and Christian Science.

The story of the origin of osteopathy is romantic enough to appeal to the fancy of impressionists, almost as romantic as the finding of the mysterious stones by the immortal Joe Smith. Its originator claims to have discovered the principle of osteopathy by curing a headache resting the back of his head across a swing made of his father's plow-lines, and next by writhing on his back across a log to relieve the pain of dysentery. Since his time, there has been a flood of big words and Latin names to confound the laity. The campaign for the progress of osteopathy has taken place in the lay journals and not along the lines of scientific criticism. Since 1874, however, numerous schools of osteopathy have been organized and numberless men, unscientific and ignorant in the art of medicine, have been forced upon the gullible American public. This would not be so unfortunate were it not that a number of States have given osteopathy more or less favorable recognition, and in that way legalized them to persist. A number of uninformed literary people who have been more or less identified with this movement, among whom may be mentioned Mark Twain, Opie Reed, Ella Wheeler Wilcox and Emerson Hough, have helped the cause. Barnum said "The American people like to be humbugged," and this is sorrowfully true insofar as osteopathy is concerned, but what makes it really painful is that many Western States have accepted osteopathy and a few years ago a celebrated governor of New York practically legalized it in the Empire State. The last of the masquerades that I desire to address myself to is Christian Science. Here is a religio-medical farce as absurd as it has proven to be harmful. It is not my purpose to enter into a lengthy criticism of this farce; for this I would refer the reader to the articles in the *North American Review, The Medical Record* and the *New York Sun*, which give a fair exposition of Mrs. Eddy's ideas. The subject is a refinement of the faith cure and prayer cure, commercialized in an organic way. Its reason for establishment is probably best presented by a selection from a preface to the "Miscellaneous Writings" of Mrs. Eddy, which follows: "Christian Science demonstrates that the patient who pays whatever he is able to pay for being healed is more apt to recover than he who withholds a slight equivalent to health." Need anything more be presented than that? And if so, I beg leave to offer certain quotations from her work and my critcism. Mrs. Eddy was a literary craftswoman of no mean type, for in the reading of her work, "Science and Health with Key to the Scriptures," the superficial person is impressed with the words as oracles of wisdom, because they are presented as an undisputed thing in such a solemn way. Mrs. Eddy seems to have been a homeopath, and to have been led by recognizing the medical inertness of high attenuations. She herself said, "Homeopathic remedies sometimes not containing a particle of medicine are known to relieve symptoms of disease. What works the cure? It is the faith of mortal mind that changes its own self-inflicting suffering and produces a new effect upon the mind."

In the way of transgression, I wish to present the very opposite view she had to Hahnemann on his principle view of the therapy, and there is no doubt that she was about as far wrong as he. Page after page of her contributions are jocund with fancies, and the delighted new thinker, like dear Alice after reading the Jabberwock, is gloriously filled with ideas but entirely ignorant of the meaning. Her belief seems to be that diseases do not exist save as a false belief to be treated with argument, and the positive treatment of them is as follows: First of all, buy Mrs. Eddy's book and have the patient do so too. This will increase the circulation—of the book. Next deny that there is any disease and make the patient agree with you, for, "remember that all is mind and there is no matter. You are only seeing or feeling a belief, whether it be a cancer, a deformity, consumption or fracture that you deal with." Having thus established that disease does not exist, you next proceed to meet the incipient stage of a disease with such powerful eloquence as a Congressman would employ to defeat the passage of an inhuman law. No disease can stand that! Still more oddly, you are to call this disease, whose existence you deny, by name, but only mentally, because if the patient hears its name, his mortal mind will hold on to the disease; for, apparently, the mortal mind, which itself has no existence, although impressed by "absent treatment" and the reading of Mrs. Eddy's book, cannot let go any disease whose name is spoken loudly. But if you only address the disease mentally and speak the truth to it, "tumors, ulcers, tubercles, inflammation, pains and deformed backs, all dream shadows and dark images of mortal thought will flee before the light." To the practical mind, it would seem that the "healer" would need some medical knowledge to make his differential diagnosis of "ulcers and tumors" and to distinguish between "abscess, aneurism and the other abnormal conditions." And lastly, I would ask if disease does not exist, and has no intelligence to move or change itself, does it not seem a waste of time to have any discussion with it at all?

If this were all of Christian Science, it might do little or no harm. No one would object to letting a "Scientist" hold mental conversation with the patient's disease, or give "absent treatments" or encourage the sick to "look on the bright side." But the unfortunate aspect is presented of children dying of diphtheria and numbers of cases having curable infections permitted to march solemnly and silently into the grave with the incantation of these absurd ideas. For, no physician is to be called in by the sick, as she has said, "the Scientist who understands and adheres strictly to the rules of my system is the only one safe to employ in difficult and dangerous cases." She is bitter against all forms of treatment but her own, and makes her grand stand against the regular school of medicine, which has stood active for 1,600 years and is stronger to-day with right-minded people than ever before.

Mrs. Eddy's inconsistency is to be seen in the following: "The only beneficial effect of prayer is on the human mind, making it act more powerful on the body through the stronger faith in God—this, however, is one belief casting out another; the belief in the unknown, casting out the belief in sickness." Since the tenets of her creed are distinctly Christian, one readily becomes sunken in the depth of question when you observe the numbers of Hebrews frequenting these churches on a Wednesday night. People, strong in their religious beliefs and faith, nevertheless go to these churches, listen to the teaching, undertake to benefit by them, and still hold strongly to their own faith. How can a person satisfactorily straddle two Gods and

faiths? As time goes on and case after case of curable disease is led away to the grave, the people are awakening to the folly of this new order, and it is truly unfortunate that only within the past year, the President of the United States saw fit to allow the populace of the District of Panama to accept this method of treating disease after all that American medical science has done in eliminating disease from that pestilent zone.

In America, the average voter is jealous of his freedom and he elects people to office who legislate so as to allow him these liberties. While this is grand in principle and beneficial in most things, there is no doubt that it is decidedly harmful in medical matters. It would seem as if the time must come when the federal government will consider the health of our citizens as an asset, and provide what is wisest for them in the way of assistance during illness. In this connection now liberty means license, license comes to folly and folly to the grave. Why does not the country recognize its obligations and legislate for what would be best for its people? America is a new country and in many ways we are learning, but we have still far to go to elevate the subject of public health to a European standard. We will some day, because it is inevitable, and when that time comes the control of the situation will be altogether in one school. To hasten that time I would suggest that the people be more critical with those upon whom they place responsibility to cure them of disease, and particularly to be more careful of their own ideas upon a subject concerning which they know nothing. To the average individual there is a strange fascination in all things pertaining to illness and only to be acquainted with a few remedies that do not give them relief, does not give them the right to selfishly accept fake methods of treatment. I say selfishly, because the individual owes something to the community as well as to his people, and this should guide him when his own mind is likely to lead him astray. When a new therapeutic fake arises in America, the voters and their legislatures are directly appealed to. Then they enact laws which are signed by Governors who have no more knowledge of medicine than the legislators had, and license comes of this liberty that characterizes America, and that, in this connection, is not liberty but hysteria, and legalized delusion. When anything pertaining to medical affairs is presented to a State body the opinions of the scientists and workers in true medicine should be the guiding mentors. In Germany, this is so, as well as in other countries that have made such tremendous strides in civilization, and if America would likewise accept this standard, which could best be brought about by the establishment of a bureau of public health in Washington, our people would be immensely better off. There is no doubt that the science of medicine, the laboratory and surgery, will wipe the slate of the mistakes of the past, but it is a slow process and one that will cost lives on the way. Why not all of us accept what is the best and not expect more from a medical man than is his power to accomplish? Every advance of any value whatsoever in medicine that has been made during the last sixteen centuries, has been made in the ranks of hard workers and members of the regular school. We are not looking for more remuneration or for more recognition, for we are servants of a profession, ordained and schooled for its practice. Scores of thousands of us throughout the world are engaged for a small pittance doing whatever we can to cure disease and to alleviate suffering. We do this modestly and silently. We do not advertise ourselves in the lay press or our wares to public readers, and we have constantly hoped that the people would see that they were in the best hands with us. I feel that whatever may be said against the true medical man, it is nevertheless so that every sick person is in the best hands when in those of a regular practitioner of medicine. Let us acknowledge this and be guided by it, and let those who have that semi-degree of intelligence that constantly hankers after new things and accepts them as the whale did Jonah, look upon the poor and unintelligent who do not think for themselves but recognize in a medical man one who is ordained to do a specific something—a work which in quality and kind he gives to these people better than they can get from the outside pathies, creeds and sects.

126 East 60th St.

PERSONAL OBSERVATIONS OF INDICANURIA.*

FRITZ C. ASKENSTEDT, M. D., Louisville, Ky.

Through the experimental work of Schmiedeberg, Ellinger, Hurter, and of others, a relation of cause to effect between putrefaction and indicanuria has been satisfactorily proven. Their work has shown that indol is always a product of bacterial activity upon certain proteids; that the intestinal canal is practically the only seat of this activity in man; that after absorption indol is converted into indoxyl, to be further elaborated by the liver into indoxyl sulphate, known as indican, and finally excreted by the kidneys as such, combined with potassium. But while the dependence of urinary indican upon bacterial decomposition of proteids in the intestine is conclusively proven, many factors yet undetermined tend to disturb the proportion of the cause to the effect. The character of the intestinal flora and of the proteids supplied, the rapidity of the intestinal absorption, the competency of the liver, the affinity of the tissue cells for indoxyl, the efficiency of renal excretion, all must have a certain influence on the production and excretion of indican. Since fluctuations in indican excretion dependent upon these factors must occur, it cannot be expected that variations in the quantity of indican in the urine will necessarily be found in exact proportion to the amount of intestinal putrefaction. Nevertheless, if a certain quantitative correspondence occurs under clinical conditions, and its limitations can be approximately ascertained, much useful information is to be derived from an estimate of urinary indican. The practice of medicine deals so largely in probabilities that, after all, methods must be judged by their relative rather than by their absolute values.

The principal difficulties in the clinical study of indicanuria have heretofore been the time required for a quantitative estimate of indican, and the utter unreliability of ordinary qualitative tests. For reliable observation quantitative tests should be made at short intervals; and unless the proteids ingested are properly classified and weighed, the excretion of indican should be expressed in indican-nitrogen or indican-urea ratios, instead of absolute quantities. It is evident that the larger the intake of proteids yielding tryptophane, from which indol is principally derived, the greater will be the output of indican. Although some nitrogenous food stuffs, as gelatin, globulin, fibrin, and casein, are scarcely capable of producing indol, even under most favorable conditions, the indican-urea ratio will prove a more reliable working factor than will the twenty-four hours' indican excretion in the absence of an exact dietary, which can rarely be enforced in practice.

*Read before the American Association of Clinical Research, New York, November 9, 1912.

My report herewith submitted is not rendered with a hope of presenting anything new, or deciding any mooted question, which would require a much larger and varied experience; but rather for the purpose of directing attention to a simplified quantitative test for indican,* which though only approximately accurate in its results, yet will afford the laboratory worker or the practicing physician some advantage over previous methods.

The first experiment was undertaken for the purpose of observing the effect of a slightly increased proteid diet upon the indican output under ordinary clinical conditions. The patient habitually passed an excess of indican. When the excretion of urea is considered, it should be remembered that approximately eight-tenths of the nitrogen absorbed is excreted as urea nitrogen, which excretion begins about seven hours after the proteid food stuffs have been ingested. The nature of the proteid food is roughly indicated under diet. To this should be added one glassful of sweet milk taken three times a day, with meals, during the entire experiment. The urines examined were the twenty-four hours' secretions, each collection being completed with the morning urination, at 8 A. M., of the days designated in the schedule below. As chemical tests vary considerably in accuracy it should be stated that in this, as well as in all subsequent experiments, the following processes were used: Estimates of urea were made with the Doremus-Hind's instrument; of uric acid with the Walker Hall's purinometer, calculating on 9/10 of the purin nitrogen as uric acid nitrogen. Ammonia was determined by Malfatti's process, and indican by my own. Glycuronates were estimated by a new process having an arbitrary standard, which renders these figures correct only in their relations. (This test will soon be ready for publication.)

dican were made in thirty-seven cases reported below. The indicanuria is here expressed in indican-urea ratios, the proportion of 1 to 1500 or more being designated, for the sake of convenience, as normal; of 1 to 1000-1500 as slight excess; of 1 to 500-1000 as moderate excess; and of 1 to less than 500 as great excess.

	Normal ratio.	Slight excess.	Moderate excess.	Great excess.
3 cases of hyperchlorhydria.....	1	1	1	
18 cases of normal acidity.....	11	2	3	2
9 cases of hypochlorhydria.....	4	2	2	1
6 cases of absence of free hydrochloric acid	1	1	4	
The relation of gastric motor power to indicanuria was noticed in 33 cases:				
15 cases of normal or increased motor power	6	1	5	3
18 cases of reduced motor power.	10	2	6	

It appears that absence of free hydrochloric acid in the stomach decidedly favors indicanuria. Hypochlorhydria shows a slight predisposition to the formation of indican, while a reduced gastric motor power tends to inhibit it, probably by prolonging the exposure of the contents to the action of the acid. The gastric contents of the above case of hyperchlorhydria with moderate excess of indican, contained much mucus, which by enveloping the food particles must have largely protected them against the action of the hydrochloric acid. It must be admitted, however, that a larger collection of cases may lead to a different inference.

If a diminished hydrochloric acid secretion favors indicanuria, alkaline medication per orem, in the absence of hyperchlorhydria, must also favor an increase of indican. The following observations were taken from a case of mucous colic, with highly acid urine.

(*See table on page 235.*)

It will be seen that the period of lowest indican-urea ratio occurred March 1-5, just at a time of alkaline (sodium bicarbonate) medication. The barely apparent reduction of this ratio when the urinary acidity was reduced with sodium citrate, and, as will be seen

Date. Aug.	Diet. Proteids.	Quantity c.c.	Sp.gr.	Urea gms.	Uric Acid gm.	Amm. gm.	Indican. mg.	Glycuronates	Ratio Indican-urea	Ratio Indican-glycuronates.
5	Breakfast: 1 egg.									
6	Dinner: beefsteak ..... Supper: beefsteak.	800	1021	17.6	0.24	0.44	30.4	168	1 to 579	1 to 5.6
7	Breakfast: 1 egg, bacon.. Dinner: broiled ham. Supper: hash.	750	1026	22.5	0.23	0.44	39.	226	1 to 577	1 to 5.8
8	Breakfast: 1 egg..... Dinner: beefsteak.	750	1026	22.5		0.43	33.	217	1 to 682	1 to 6.6
9	Breakfast: 1 egg..... Dinner: hash. Supper: salmon.	1250	1017½	25.	0.3	0.39	35.	225	1 to 714	1 to 6.4
10		1150	1019	23.	0.42	0.445	41.4	253	1 to 555	1 to 6
11	Dinner: beans	770	1026	20.	0.28	0.46	29.3	192	1 to 684	1 to 6.6
12	Supper: a saucer of gelatin	880	1017½	17.6	0.323	0.45	23.8	140	1 to 741	1 to 6
13	Breakfast: ham ..... Dinner: beefsteak. Supper: beefsteak, gelatin.	800	1021	16.8	0.29	0.35	20.8	168	1 to 808	1 to 8
14		920	1018	20.2	0.44	0.438	35.	220	1 to 579	1 to 6.3

This experiment permits the following observations:

(1) The output of indican, as well as that of urea, is augmented by an increase of proteids in the diet. The indican-urea ratio is, therefore, a better index of proteid digestion than the total amount of indican excreted in twenty-four hours.

(2) The curve of indican elimination, in the absence of medication, is closely similar to that of the glycuronates, which represent a portion of all the more important aromatic bodies absorbed from the intestines, as skatol, phenol, and eresol, besides indocyl.

Since indican is a result of bacterial activity upon proteid foodstuffs, a low hydrochloric acid content of the stomach, by delaying their digestion and favoring bacterial growth, may predispose to indicanuria. Simultaneous gastric analyses and estimates of urinary indicanuria, go to prove that the lowered ratio was due to a neutralization of hydrochloric acid in the stomach.

The effect of a purgative, like castor oil, reducing indicanuria, may be noted incidentally.

It has been claimed that excessive indicanuria and high urinary acidity are almost constantly associated. The following 185 classified cases are taken from my records. Since the acidity of the urine changes with changes in its sp. gr., a better estimate of the acidity than by percentage is afforded by the hydrochloric acid coefficient. This is obtained by ascertaining the total acidity of the twenty-four hours' urine and expressing it in its hydrochloric acid equivalent, and then dividing the hydrochloric acid thus found by the number of grams of urinary solids passed in twenty-four hours. In these cases a coefficient of 0.024—0.03 has been considered normal. (Cases of diabetes are excluded.)

*See "A Simple and Improved Quantitative Test for Indican," *New York Medical Journal*, June 29, 1912.

Date.	Medication.	Quantity c.c.	Sp. gr.	H. A. coefficient	Urea grms.	Uric Acid gm.	Amm. gm.	Indican. mg.	Indican-urea ratio
Feb.									
25	None	900	1016	0.042	16.2	0.333	0.4	9.	1 to 1800
26	None	1070	1016	0.033	16.	0.449	0.439	9.6	1 to 1667
27	None	600	1026	0.039	15.6	0.33	0.378	11.4	1 to 1368
28	A level teaspoonful of sod. bicarb. (after completing 24-hrs. collection of urine)	680	1026	0.043	17.7	0.28	0.46	10.2	1 to 1733
March.									
1	A level teaspoonful of sod. bicarb.	980	1020	0.017	15.7	0.46	0.31	13.7	1 to 1146
2	½ level teaspoonful of sod. bicarb. before breakfast and supper	950	1021	0.009	14.2	0.446	0.24	18.	1 to 800
3	1 level teaspoonful of sod. bicarb. before breakfast, Appetite poor	700	1019½	0.0167	11.2	0.42	0.273	9.8	1 to 1143
4	1 level teaspoonful of sod. bicarb. before breakfast								
5	None	650	1024½	0.025	11.7	0.39	0.3	12.3	1 to 947
6	None	820	1023	0.032	14.7	0.443	0.5	8.2	1 to 1800
9	None	310	1030	0.061	9.3	0.226	0.35	7.7	1 to 1200
10	None	370	1030	0.051	11.5		0.3	8.9	1 to 1292
11	None	375	1031	0.059	11.2		0.42	7.5	1 to 1500
13	None	520	1028	0.05	14.6		0.47	5.7	1 to 2545
14	1 drachm sod. citrate t. i. d. after meals	620	1027	0.013	14.9	0.31	0.254	11.8	1 to 1263
15	1 drachm sod. citrate t. i. d. after meals	720	1026	0.0087	13.	0.338	0.235	8.	1 to 1636
16	1 drachm sod. citrate after breakfast and supper	800	1021½	0.011	11.6		0.216	8.8	1 to 1318
17	Purging dose of castor oil in morning	780	1021	0.028	11.7	0.39	0.37	10.1	1 to 1154
18	None	350	1031	0.059	11.2		0.54	4.2	1 to 2666
19	None	540	1027	0.045	11.9	0.2	0.48	7.	1 to 1692
27	None (Attack of mucous colic over)	560	1028	0.038	13.4	0.224	0.36	0.6	1 to 24000
28	None. Feels well	660	1025	0.034	14.5	0.212	0.416	2.	1 to 7333
29	None	750	1021		13.5	0.277	0.457	1.5	1 to 9000

OBSERVATIONS ILLUSTRATING CASE OF MUCOUS COLIC, DESCRIBED ON PAGE 234.

INDICAN.	ACIDITY. High.	Normal.	Low.
Normal	42	28	38
Slight excess	17	10	9
Moderate excess	10	11	10
Great excess	3	3	4

While the cases of normal indican content or slight excess here show a preponderance of high acidity, the cases of moderate or great excess are remarkably evenly distributed. An association of high acidity with excess of indican will, of course, usually be observed in concentrated urine when mere percentages are considered.

Experimental research teaches that in unobstructed bowels the production and absorption of indol occurs entirely in the ceacum and colon. Colon enemas, therefore, by removing the contents of the bowel may perceptibly reduce the quantity of indican in the urine. On the other hand, it has been argued that enemas, by diluting the intestinal contents and furnishing an ample amount of liquid, will promote bacterial growth and absorption of indol in the colon. With the hope of finding some experimental proof in support of either hypothesis the urine of a patient taking an enema every other night was collected and examined at short intervals. The enemas consisted of one-half gallon of water, nearly all of which was expelled, and the bowel was apparently thoroughly evacuated. The following was recorded:

Date.	Hour.	Quantity c. c.	Sp. gr.	Urea %	Indican. %	Indican—urea ratio		Indican. mg	Indican. from midnight to midnight mg	Indican. from noon to noon mg
June 3	8 a. m....		1027	2.6	0.0054	1 to 481				
" 3	12:30 p. m..		1026	2.3	0.0053	1 to 434				
" 3	6 p. m.....	200	1028	2.4	0.006	1 to 400		12		
" 3	11:45 p. m..	180	1030	2.4	0.006	1 to 400	enema	10.08		
" 4	8 a. m.....	170	1028	3.2	0.0062	1 to 516		10.54		
" 4	12 m.	100	1024	2.8	0.0047	1 to 596		4.7		37.32
" 4	4:15 p. m.	130	1026	2.7	0.0038	1 to 711		4.94		
" 4	10 p. m....	220	1028	2.4	0.0031	1 to 774		6.82		
" 4	12 m.	50	1027	2.6	0.0032	1 to 812		1.6	28.6	
" 5	8 a. m.....	200	1027	3.	0.0046	1 to 652		9.2		
" 5	12 m.	170	1013	1.5	0.002	1 to 750		3.4		25.96
" 5	4 p. m....	230	1020½	1.6	0.0024	1 to 667		5.52		
" 5	7:20 p. m.	170	1023	2.	0.0034	1 to 588		5.78		
" 5	11:30 p. m.	150	1027	2.6	0.006	1 to 433	enema	9.	32.9	
" 6	7:30 a. m.	150	1028	2.8	0.0052	1 to 539		7.8		
" 6	12 m.	175	1017	2.	0.003	1 to 667		525		33.35
" 6	4:45 p. m.	125	1027½	3.	0.005	1 to 600		6.25		
" 6	7:40 p. m.	90	1028	2.7	0.0056	1 to 482		5.04		

Date.	Hour.	Quantity c. c.	Sp. gr.	Urea %	Indican. %	Indican—Urea ratio		Indican. mg.	Indican. from midnight to midnight mg.	Indican. from noon to noon mg.
June 6	11 p. m....	90	1029½	2.8	0.0065	1 to 431		5.4	29.74	
" 7	8 a. m....	230	1028½	3.	0.006	1 to 500		14.95		
" 7	12 m.	260	1011	1.1	0.0014	1 to 786		3.64		35.28
" 7	5 p. m....	310	1017	1.7	0.0017	1 to 1000		5.27		
" 7	10:25 p. m..	170	1025	2.4	0.004	1 to 600	enema	6.8		
" 8	8 a. m....	225	1026	2.4	0.0026	1 to 923		5.85	30.76	

No apparent effect from these enemas is to be seen.

To an indiscriminate absorption of intestinal contents by the colon many infirmities of old age have been attributed. While certain intestinal auto-intoxications which have no bearing on indicanuria have been demonstrated, nevertheless the benzol group—indol, skatol, cresol and phenol—is still regarded with suspicion. A comparative study of indicanuria and high arterial tension is, therefore, not without interest. Inasmuch as arterio-sclerosis is common after fifty years of age, the cases are divided into two classes: A—Patients fifty years of age or over. B—Patients under fifty. Blood pressure of 120-140 m. m. Hg. is here considered normal for males; 110-130 for female patients, at all ages after twenty.

A.—50 YEARS OR OVER.

	INDICANURIA. Normal.	Slight excess.	Moderate excess.	Great excess.
33 cases of high blood pressure...	18	9	6	
13 cases of normal blood pressure.	8	3		2
12 cases of low blood pressure....	3	1	8	
Per cent.	50	22½	24	3½

B.—UNDER 50 YEARS.

	INDICANURIA. Normal.	Slight excess.	Moderate excess.	Great excess.
11 cases of high blood pressure...	8	1	1	1
38 cases of normal blood pressure.	20	6	8	4
31 cases of low blood pressure....	15	7	4	5
Per cent.	53%	17½	16¼	12½

Rearranging these cases independently of age:

	Blood Pressure. High.		Normal		Low	
72 cases of normal indicanuria.....	26	36%	28	39%	18	25%
66 cases of excessive indicanuria...	18	27%	23	35%	25	38%

If a small series of cases like this may be considered in connection with blood pressure, it will be seen that excessive indicanuria occurs as frequently after the age of fifty as before, but that it shows a tendency to be associated with a low, rather than a high, arterial tension.

Much has been written on indicanuria as an aid in differential diagnosis. When considered in connection with previously published reports, the following list of classified cases, taken from my records, may prove of service to show the frequency and degree of excessive indicanuria in a general run of diseases:

	INDICANURIA. Normal.	Slight excess.	Moderate excess.	Great excess.
Chronic gastric catarrh.....		2	4	2
Cancer of stomach.....	1		3	1
Cirrhosis of stomach.....			1	
Gastrosuccorrhœa			1	
Hyperchlorhydria (neurotic)	1			
Gastric ulcer	1			
Duodenal ulcer		1		
Chronic indigestion (unclassified).	10	3	1	2
Acute diarrhœa	3	1		1
Chronic diarrhœa	2		1	1
Colitis		1		
Mucous colic		1		
Chronic appendicitis	1			
Obstipation	1			
Enteroptosis	7	1	6	2
Obstructive jaundice	3			
Cholelithiasis		1		
Fatty infiltration of liver (obesity)		1		
Tumor of the liver, benign.....	1			
Liver disease, unclassified.....		1		
Sarcoma of ascending colon.....				1
Malignant tumors, outside abdomen	1	1	1	
Albuminuria, functional	2		1	
Nephritis, acute	2			
Nephritis, post-scarlatinal	1			
Nephritis, chronic interstitial.....	2	1		
Hydronephrosis		1		
Pyelitis	3			
Renal calculus	3			
Supra-renal insufficiency	2			
Diabetes mellitus	6	2		
Diabetes insipidus	1		1	
Arterio-sclerosis, general	13	6	3	
Myocarditis	9	3	1	
Valvular heart disease, with failing compensation	5			
Aneurism	2			
Angio-neurotic œdema.....	1			
Hemiplegia	1			
Softening of brain.....	2	1		
Congenital brain lesion.....	1			
Acromegaly			1	
Epilepsy	1	1		
Phrenasthenia				1
Hypochondriasis	4	1	3	
Melancholia	2		1	
Neurasthenia and nervous exhaustion	15		5	1
Hysteria	1			
Migraine, between attacks.....	1		1	
Cerebro-spinal meningitis	1			
Cervical pacchymeningitis, hypertrophic		1		
Paralysis agitans	1			
Transverse myelitis	1	1		
Putnam's sclerosis	1			
Neuralgias	2	1		
Neuroses, unclassified	5	1		
Muscular dystrophy	1			
Exophthalmic goiter	1			
Uterine diseases	3	1		
Climacteric			2	
Pregnancy	8	3	1	
Puerpural sapræmia	1			
Tuberculosis, pulm., 1st stage....	2		1	
Tuberculosis, pulm., 2d stage.....	3		1	2
Tuberculosis, pulm., 3d stage.....	1	1	2	2
Tuberculosis, miliary				1
Typhoid fever	4	1	1	
Malarial fever	1	2		1
Articular Rheumatism	1			
Lumbago	2			
Hodgkins' disease	1			
Chlorosis		1		
Henoch's purpura	1			
Pellagra				1
Cyclic vomiting	1			
Chronic morphinism	1			
Bronchial asthma	2			
Chronic bronchitis	1			
Acne	1			
Dermatitis herpetiformis	1			
Pruritus	1			
Eczema	1			
Amaurosis			1	

It will be seen that excessive indicanuria implies a seriously disturbed digestive function, but beyond this it is of but little diagnostic value.

Having failed in an attempt to cultivate in bouillon the Bulgarian lactic acid bacillus taken from a tablet of fermenlactyl—obtained directly from the manufacturers—and having observed no palpable clinical results from the use of tablets of fermenlactyl and lactone, I decided to test the virtues of ordinary buttermilk on a patient excreting indican in excess. The patient, a married woman, thirty years of age, was a confirmed neurasthenic, constipated, and usually ate but little animal food. April 10, before the experiment, she excreted 10.66 gms urea, 0.26 gm uric acid, 0.1 gm phos. acid, 7 gms chlorides, and 9.8 mg indican, affording an indican-urea ratio of 1 to 1088. April 18 she was requested to take a liberal amount of buttermilk with her meals. Analysis of her urine April 24: Urea, 13 gms; uric acid, 0.23 gm; chlorides, 3.2 gms; indican, 11.5 mg—ratio 1 to 1130. During the succeeding week she took nothing but one-half gallon of butterimlk per day. Urinalysis May 1: Urea, 15.95 gms; uric acid, 0.3 gm; phos. acid, 0.1 gm; chlorides, 2.2 gms; indican, 24.4 mg—ratio, 1 to 654. The buttermilk had now become so distasteful to the patient that on May 2 she refused to continue on an exclusive milk diet. She consented, however, to take one quart of buttermilk with a mixed vegetable diet for another week. Urinalysis May 8. Urea, 14.5 gms; uric acid, 0.345; phos. acid, 0.1; chlorides, 11.2 gms; indican, 19 mg—ratio, 1 to 763.

It is admitted that the examinations for indican were not made often enough in this experiment to render it of positive value, and as an evidence either for or against a proper use of buttermilk as a substitute for other albuminous food to reduce the growth of putrefactive bacteria it failed entirely in its purpose. The case has a certain value, however, in demonstrating, in full harmony with the preceding work, that a diet of proteids in excess of the absorptive capacity of the intestine, will, even when consisting mostly of caseine, and notwithstanding any inhibitive power that the lactic bacillus may possess, promote the growth of putrefactive and indol producing germs.

In suming up the results of the work here submitted, for the sake of embodying my observations in a tangible form for future research, it has seemed legitimate to formulate the following inferences tentatively:

1. That the indican-nitrogen or the indican-urea ratio better expresses the state of proteid digestion than does the twenty-four hours' excretion of indican.

2. That a moderate increase of the proteids in the diet will within twenty-four hours cause an indicanuria to assume a lowered indican-urea ratio.

3. That conditions—such as hypochlorhydria, neutralization of gastric acidity by alkalies taken by the mouth, or even an increased gastric motor power—which interferes with the action of hydrochloric acid in the stomach upon the ingested albumins, tend to result in an increased indicanuria.

4. That in the absence of medication the curve of indican excretion is almost parallel with the curve of excretion of glycuronates; and that the excretion of indican is, therefore, for practical purposes, a useful index as to the amount of the aromatic substances absorbed.

5. That the evacuation of the colon by an enema does not—at least not in all cases—show a perceptible influence upon indican excretion.

6. That high urinary acidity bears no other relation

to excessive indicanuria than that of a concentrated urine.

7. That clinically indicanuria does not cause a high blood pressure; on the contrary, it shows a tendency to be associated with a low arterial tension.

8. That the diseases in which excessive indicanuria is found most commonly are those with a disturbed digestive function, and that beyond this indicanuria is of but little diagnostic value.

It is beyond the purpose of this paper to discuss the clinical syndromes most frequently associated with indicanuria. Nevertheless, the assertion may not be inappropriate that since excessive indicanuria means excessive intestinal putrefaction, the dangers impending to a patient whose urine contains an excess of indican are practically the same as those which may ensue from eating uncooked, putrid meat, a few days old. A patient with excessive indicanuria may appear in perfect health for a time, but the demands upon the protective powers of his system are such as to place him close to the border line of pathology. It is true, the disappearance of symptoms upon a reduction of indicanuria is no proof of its dominant role, but even when considering indicanuria merely as a sign of distress, its practical value is none the less significant. In variety and intensity the poisons of proteid cleavage exceed all others, and an excess of non-utilized nitrogenous matter with an ever fluctuating flora in the intestine, the gateway to general metabolism, must sooner or later lead to general intoxication. For combating this intestinal putrefaction various methods have been advocated, but a consideration of its causation and nature renders it apparent that a reduction of proteids in the diet to the minimum amount consistent with a nitrogenous equilibrium of nutrition is of paramount importance.

Deaths from Typhoid Fever.

There were 12,451 deaths from typhoid fever in the registration area of the United States during the year 1911, a slight decrease from the number for the preceding year. The death rate was 21 per 100,000 population for 1911, 23.5 for 1910, and 21.1 for 1909. The rate for 1911 is the lowest from typhoid fever since the institution of the annual reports and probably the lowest on record. This fact and the progressive reduction in the mortality from this disease, from 32 per 100,000 population for the period 1901 to 1905 to 25.6 for the period 1906 to 1910, indicate that the public health officials of the country and the people who support their efforts are awakening to the necessity of wiping out this filth disease. The mortality from this cause in the United States is still far in excess of that of progressive European countries. If it could be reduced by three-fourths, so that it would be only 5 per 100,000 as in England and Wales, the Netherlands, and Prussia, for 1910, it would represent a saving of nearly 10,000 lives at the period of their greatest usefulness, as a rule.

The cities of 100,000 population and over having the highest death rates from typhoid fever in 1911 were: Atlanta, 66.1; Memphis, 65.4; Nashville, 53.9; Birmingham, 45.5; and Spokane, 35.6—all but the last, cities of the South; while the lowest rates, valuable as evidence that the typhoid mortality of American cities need not exceed that of the well-regulated European cities, are recorded for Cambridge, 2.8, and Bridgeport, 3.8. Chicago and New York had the same rates for the year, 10.9; and several cities, besides Cambridge and Bridgeport, had rates under 10 per 100,000, namely, Worcester, 6; Paterson, 7; Jersey City, 7.2; Lowell, 7.3; and Boston, 8.7.

A CLINICAL LECTURE

given in the

Long Island College Hospital, June 26, 1913.

HENRY H. MORTON, M. D.,

CLINICAL PROFESSOR OF GENITO-URINARY DISEASES IN THE LONG ISLAND COLLEGE HOSPITAL, AND GENITO-URINARY SURGEON TO LONG ISLAND COLLEGE AND KINGS COUNTY HOSPITALS AND THE POLHEMUS MEMORIAL CLINIC, ETC.

Brooklyn, N. Y.

Case I. Tuberculosis of the Testicle.

Our first case is one of tuberculosis of the testicle. Unlike the case presented at our last clinic the diagnosis in this case offers no difficulties whatever. In the former patient there was enlargement of the testicle and there were many difficulties in the way of making a diagnosis and it was not until we had cut into the testicle and discovered the nature of the growth that we were able to make a positive diagnosis, but this case is what the Germans call "ein schul fall;" that is to say, it is a dead open and shut case.

History: The history of the patient is as follows: He is 23 years old, a clerk by occupation. There is no family history of tuberculosis. He states that three weeks ago he noticed a slight swelling in the left testicle which grew slowly; some days ago a small nodular projection appeared on the skin which sloughed and formed a superficial round ulcer which lasted for a time; then granulations began to come out through the ulcer and he has now a fungoid growth the size of my thumb nail, upon the skin of the scrotum.

We can make a positive diagnosis of tubercular epididymitis and orchitis, with a protrusion of the testicle through the opening in the skin caused by the sloughing, to which we give the name of hernia or fungus of the testis.

Examination: The head of the epididymis is enlarged and hard, with a peculiar stony hardness. The testicle is enlarged and it is difficult to differentiate the epididymis from it. On the base of the testicle is this fungoid mass.

Examination per rectum shows an absence of nodules in the prostate or seminal vesicles; they are perfectly soft and normal.

The Von Pirquet reaction is strongly positive.

I would like to say a few words about the subject of tuberculosis of the testicle in general.

Tuberculosis of the testicle always begins in the epididymis. The body of the testicle is affected later. The epididymis may be affected in three ways:

Primarily, in which the tubercle bacilli are introduced into the general circulation of the blood and carried directly to the the epididymis by the spermatic artery.

Secondarily, from deposits in the genito-urinary organs, such as the seminal vesicles or the prostate, in which case the bacilli are carried through the vas deferens, or it may be through continuity.

Thirdly, by means of hematogenous infection in which case the bacilli are carried from the lungs or kidneys.

The course of the disease is slow and chronic. In most cases the small nodules, which form in the epididymis, remain latent for a period of months or years and afterwards, through some exciting cause become active and spread to the testicle.

In three-quarters of the cases, as shown at operation or autopsy, the body of the testicle is badly involved in the tuberculous process.

In a certain number of cases the skin becomes adherent to the testicle, bound to it by inflammatory adhesions, and a portion of the skin sloughs away. The

broken-down tuberculous pus from the interior of the testicle discharges through the opening in the skin, leaving a fistulous tract.

Fungus testis, which is one of the features in this case, is formed through the opening in the scrotum by new granulation tissue growing up from the bottom of the wound and the body of the testicle and protrudes through the opening in the skin where it forms an elevation, perhaps a half-inch or more in height, above the skin.

The various complications which we have to consider in connection with tuberculosis of the testicle may now be taken up:

Hydrocele is important from the diagnostic point of view because hydrocele fluid obscures the outline of the testicle. The vas deferens is generally affected sooner or later with deposits of tubercular material in its walls which form small nodules; so in these cases of long standing the cord is always thickened. The seminal vesicles are often attacked by deposits of tubercular material in their walls and surrounding connective tissue and there is general infiltration of tuberculous material in the walls and around them. The prostate is frequently involved and rectal examination often shows nodules of a stony hardness the size of small bird shot scattered through one or both lobes.

The diagnosis of tuberculosis of the testicle does not as a rule present much difficulty. The nodules may remain latent for months and have the characteristic stony hardness to the touch. Later on they soften, become caseous, broken down, purulent and discharge through fistulous openings through the skin.

A suspicion of tuberculosis should always be aroused by a history of epididymitis occurring without cause or after a slight injury.

In one-half of the cases nodules are found to be present in the vas deferens, seminal vesicles or prostate. If hydrocele is present it may be tapped in order to better outline the testicle and epididymis by palpation.

Tuberculin tests are always useful. The Von Pirquet is the one most easy to apply, but it is less reliable on account of the fact that almost every adult has a focus of healed tuberculosis and will respond positively to the test, even though the tuberculosis is entirely cleared up. The subcutaneous injection of old tuberculin is more to be depended on, but has the disadvantage of confining the patient in bed for a couple of days.

The prognosis of tuberculosis of the epididymis and testicle is bad, if the case is left alone, although occasionally encapsulation of the deposits with fibroid degeneration takes place. Very often this only offers a temporary arrest of the process which is lighted up again on slight provocation. After suppuration, the epididymis and testicle slough and are thrown off and there is always grave danger of secondary infection of the adjacent organs, such as the seminal vesicles and prostate, or hematogenous infection of remote ones.

Treatment: Palliative measures, such as an outdoor life, may retard the caseation for a while, but it is very unsafe to trust to anything less than the most radical treatment. Generally the deposits soften in time and demand surgical interference.

With hospital patients immediate operation is imperative since they are not able to surround themselves with the proper hygienic conditions.

At present there are two operations in vogue:

In tuberculosis of the epididymis, where the epididymis only is involved, where the tubercular nodules are confined to the epididymis and the body of the testicle is not affected, it is desirable for the effect upon the patient's mentality to leave the testicle in, if possible. In such a case the epididymis can be dissected out and the testicle left *in situ*. In the advanced cases, however, the entire testicle and epididymis must be removed by castration. In nearly all the advanced cases the body of the testicle is found riddled with tubercular nodules, as also is the epididymis, as you will observe is the case in the present instance.

Operation: We make a free incision through the scrotum, expose the testicle and bring it out through the wound.

The epididymis is enlarged and hard and the body of the testicle affected in the same way. In splitting the testicle and epididymis into halves we find both riddled with small tubercular nodules some of which are already beginning to break down.

The condition therefore calls not for an epididymectomy but for an extirpation of the entire organ—a castration.

In severing the cord we perform the manipulation which we practice commonly and which I described at our last clinic, that is, the vas deferens and cord are separated and the cord cut through at a higher level than the vas deferens, which is left a couple of inches longer. The vas deferens is then burned through with the Paquelin cautery and brought out beyond the edges of the wound so that if any diseased material remains in the seminal vesicles it will discharge outside and not within the wound. It used to happen in a great many cases that the wound would become infected ten days or so after operation material from the seminal vesicles passing down through the vas and we would get infection, but since we have pursued this plan of carrying the vas deferens outside of the wound it is less apt to become infected.

The operation is completed by cutting out with scissors the necrotic skin around the fungus and suturing the wound with silk worm gut and introducing a gauze drain.

The after-treatment of these cases is important. In order to prevent recurrence in the other testicle or other organs, the patient should lead an outdoor life and a man who has had a tuberculous testicle should never forget that he is still a tuberculous subject and should lead the sort of life that such people have now been taught to carry on. If they live outdoors as tuberculous patients should, they are less apt to have a recurrence, but if the patients continue to follow an indoor life they are very likely to get tuberculosis in other organs, frequently the other testicle or the prostate or vesicles.

Questions by Auditors and Answers by Dr. Morton:

Q. Is the other testicle apt to be infected?

A. Yes, it is very apt to be infected unless the patient leads an outdoor life. It works somewhat in this way, I think:

We take out the testicle, but cannot touch the seminal vesicles; if they are tuberculous the infection descends through the vas deferens to the other remaining testicle. Hence the importance in the after treatment of doing everything to vitilize the tissues.

Q. How is the testicle infected in tuberculosis?

A. There are three ways. Primary infection occurs through the blood current. Tubercle bacilli are introduced into the blood stream by being breathed in with the inspired air or taken into the stomach in milk and are carried through the blood stream to the point of least resistance in the body where they become active.

The next way is for infective emboli to be carried to the epididymis from foci elsewhere—hematogenus infection, and the third way is by continuity.

I believe there are often foci elsewhere which are

latent and undiscovered from deposits either in the prostate or in the seminal vesicles.

We say tuberculosis of the epididymis is primary in the sense that we are not able to find any other focus.

Case II. Hematuria.

The next case is that of a man 70 years of age. His family and past history have no bearing on the present infection. About a year ago he noticed blood in the urine. It was dark in color and the urine was not much thicker in consistency than normal. It persisted for a while then stopped and then began again and continued intermittently until the present time. He has had no pain and no frequency of urination and the only subjective symptom was a slight sensation of pressure over the pubis.

These cases of hematuria open up a very large and interesting chapter in the diagnosis of urinary conditions and I would like to go somewhat in detail into the question of hematuria with reference to the case which is now being brought in upon the carriage.

In considering the question of hematuria we ought to remember that the day for the treatment of symptoms is past. In former times, before the cystoscope and radiograph, when we had a patient with blood in the urine, it was admissable to temporize. With rest, ergot, and ice bags over the bladder, the hemorrhage could be controlled for a while, but it always returned. After constant recurrence the underlying condition would finally be disclosed, but too late for curative treatment.

Instead of regarding hematuria as something to be treated, it is a safer attitude to regard it as a warning of some serious condition in the bladder, kidneys or prostate and a practitioner should never temporize until the diagnosis is established.

In many branches it is taught that it is against professional morality to treat symptoms with palliatives; as an instance we may cite the metrorrhagia which occurs in elderly women. By temporizing, when finally the diagnosis of cancer of the womb is made, it is too late for a hysterectomy to remove the cancerous uterus and the woman's life is sacrificed.

So it is with a first attack of blood in the urine, if the practitioner waits for a second or third attack of bleeding before insisting on a diagnosis, the tumor of the bladder may have extended and become inoperable, or the stone in the kidney has completely destroyed the organ.

If the hematuria was caused by a hypernephroma of the kidney, metastatic deposits in remote organs have occurred or the cancer of the prostate has burst through the capsule and involved the bladder wall and the patient's chance of life through operation has been sacrificed.

Hematuria is a warning calling for prompt investigation of the cause.

In a case of hematuria the first question is: Does the blood come from the bladder, prostate or kidneys? If so, which one? Or does it come from the urethra?

Examination must be made methodically. First, we have recourse to palpation. We palpate the kidneys and feel the prostate. An enlargement of one kidney, which is perceptible to the touch and accompanied by hematuria points to hypernephroma or renal calculus of long standing with many adhesions and a very thick capsule.

Per rectum if you find an enlargement in elderly men it implies a senile hypertrophy or carcinoma. In many cases palpation discloses nothing, in which case we must have recourse to other means of investigation.

Thirty years ago Max Nitze, at that time an obscure German practitioner, but a gifted mechanical genius, invented the cystoscope and this was the beginning of the era of genito-urinary surgery, for through this instrument, making accurate diagnosis possible, modern surgery of the bladder and kidneys was evolved.

The next step in the investigation is the examination of the interior of the bladder with the cystoscope. Cystoscopic examination may disclose a perfectly normal bladder.

On the other hand, the most common cause of bleeding from the bladder is probably a tumor; next to that either tuberculous ulcers of the bladder or stone. A prostate large enough to cause bleeding should already have been discovered by palpation through the rectum. Before the days of the cystoscope a stone was often missed with the searcher and tumors and ulcers could not be diagnosed at all.

There is another form of bleeding which might be spoken of here, although rarely seen in this country and then only when imported. In Egypt and South Africa it is quite common. It is caused by the parasitic worm schistosomum haematobium—and the disease is known as bilhorziasis.

The worms are developed in the portal vein and when fully grown they make their way to the bladder and lie under the mucous membrane and the eggs pass through the mucous membrane of the bladder and cause small ruptures and bleeding. Cystoscopic examination of the bladder shows brilliant white spots surrounded by patches of perfectly healthy mucous membrane and microscopic examination of the blood shows the eggs in the escaped blood. In this country, however, it is more of a medical curiosity than of any practical value, yet in the great hospitals (we have patients from all over the world in the Long Island College Hospital) we do run across a case of bilharziasis once in a while.

In the event of finding a normal bladder with the cystoscope we must suspect the kidneys and the condition in the kidneys which causes hematuria most frequently is renal calculus. Another not infrequent cause of bleeding is hypernephroma. There are also varicose conditions of the blood vessels, particularly of the pelvis of the kidney with erosions, causing bleeding.

Tuberculosis of the kidney sometimes gives rise to hemorrhage by the ulceration of the nodules and opening up a blood vessel. It is analogous to the hemorrhage from the lungs in pulmonary phthisis.

Traumatism or blows upon the back over the kidney region will cause a rupture of the kidneys and hemorrhage. The tears are slow in healing and the hemorrhage lasts for a long time. I have known it to persist for months, showing that the ruptures are still unhealed. In these cases the diagnosis is made strongly probable by the history of injury followed immediately by hematuria.

To establish definitely the character of the lesion in the kidney and also which kidney is affected, is one of the triumphs of modern surgery. With the cystoscope we can sometimes see the blood issuing from one ureter. We should not rest content with that but should use chromocystoscopy. Chromocystoscopy, first brought out by Völcker and Joseph, consists in injecting a small quantity of indigo carmin under the skin of the buttocks.

In a patient with normal kidneys a blue stream of urine is seen issuing from each ureter with the cystoscope in from eight to ten minutes.

In a diseased kidney the excretion of blue is delayed and it may take twenty minutes or a half hour or more before the blue appears on the diseased side.

Simultaneous excretion means a normal relation be-

tween the two kidneys, whereas a delay of excretion on one side implies disease on that side.

Instead of using chromocystocopy we can also catheterize the ureters, collect and make a chemical and physical examination of the separate urines.

In Long Island College Hospital we depend upon the relation of the quantity of urea eliminated from the right and left kidneys and the time of appearance of the blue after using the indigo carmin test and we find that for all practical purposes these tests are sufficient.

In some of the other clinics, in Germany particularly, phloridzin and cryoscopy have been used for determining the relative functional capacity of the kidneys, but have been largely abandoned at the present time in favor of chromocystoscopy. In the last year or two phenolsulphone-phthalein has been used to show the relative functional kidney capacity, and while it is a useful and accurate test it is more difficult to apply than the simple one of indigo carmin.

The third step in the diagnosis consists in having a radiograph made of the kidney region, for without the radiograph we cannot be sure of the presence or absence of a renal calculus.

For calculus of the bladder cystoscopy is preferable since the stone can be seen with the cystoscope more easily than the shadow can be observed in the radiograph.

If the methodical examination which I have described fails to locate the source of the hemorrhage, we should examine the urethra, especially the posterior urethra, with the urethroscope. In chronic posterior urethritis caused by onanism or sexual excesses the posterior urethra is always congested and bleeds freely. Also in elderly men who have a beginning enlargement of the prostate pressure on the plexus of veins causes a leakage of blood into the posterior urethra. Very often calculi in the urethra cause interference with the urine and very rarely polypi in the anterior or posterior urethra may be the source of hemorrhage and in women a urethral covuncle sometimes causes a little blood.

Having gone over the diagnosis I wish to say a word about the treatment during the attack.

Sometimes the hemorrhage is profuse but never dangerous to life except that by long continuance it kills the patient by general debility and weakening. Rest in bed and an ice bag over the suprapubic region will generally cause the hemorrhage to stop. Locally bladder washing may be used, using nitrate of silver, 1:1000, 3 ounces in quantity, injected into the bladder. The bladder should not be distended as great distension causes the clots to loosen and falls out of the mouths of the vessels. The clots are preserved and not drawn out by using only 3 ounces of fluid.

The hemorrhage is often controlled by L. B. Bangs' method of injecting 2 ounces of creolin solution in the strength of ¼ to ½ per cent. and retaining it in the bladder for from twenty to thirty minutes. The injection should be made daily at first and later every second day.

Bangs reports several cases of inoperable cancer of the bladder where the hemorrhage was controlled by the creolin injections.

Merck's solution of gelatin, 2 per cent., injected into the bladder and retained there, has also been found to be useful.

If the bleeding persists a permanent catheter should be worn in order to put a stop to the muscular contractions and put the bladder at rest.

If the bladder is markedly distended by clots and urine they may be broken up and washed out by a large catheter and one or two drachms of peroxide of hydrogen injected through it into the bladder. This is a practical point which was first called to my attention by Dr. C. S. Cochrane, and I have used it successfully in several instances and it has always worked satisfactorily.

Another way of getting rid of the clots in the bladder is by means of the lithalapaxy tube and aspiration.

If the bleeding is uncontrollable a suprapubic cystotomy is the last resource and we can treat conditions in the bladder as we find them.

Having gone over the question of the diagnosis of hematuria and the treatment of the symptomatic form of hematuria systematically, I would like to call your attention to this patient. I palpate his kidneys. There is nothing to be found on palpation of the kidneys. They are normal in size; no pain and no enlargement. I have already examined the prostate by the rectum and I find it is not enlarged but perfectly normal in size. The day before yesterday I put the cystoscope into the bladder and after the blood was washed away I succeeded in getting a very clear view of the interior of the bladder with the cystoscope and I found a round tumor about as large as the end of my thumb at the base of the left quadrant of the bladder and a smaller one, one-half inch distant. There was also a suspicious spot at the middle of the trigone, either a blood clot or a tumor which was already beginning to ulcerate.

I exhibit a bottle containing urine which the patient has passed. You will observe its color. It is blood mixed with urine. About a couple of teaspoonfuls of blood will be sufficient to give it that color.

The cystoscopic findings establish the diagnosis positively—malignant tumor of the bladder.

Now, it is a question as to what we shall do for him. The only way of treating such a case, if any operation were attempted, would be to cut down and do a suprapubic cystotomy, excise portions of the bladder wall and remove the diseased growth in that way, but the man is 70 years of age. He is debilitated and feeble from prolonged bleeding. It will require a very extensive resection of the bladder wall to get rid of all the growth. It would be an impracticable operation so far as the operative procedure along those lines goes. I think it is a case where it is better for the patient not to attempt any operation of that sort.

In recent times we have a method of treatment by means of the high frequency or Oudin current which is destructive of benign papillomata which can be burned off and even a case of carcinoma can be arrested, the bleeding stopped and the patient's life prolonged by the use of the high frequency current. If any procedure should be pursued that would seem to me to be the one that should be considered in this case. By means of fulguration we can retard the growth and stop the bleeding and prolong his life. In the event of not being able to use fulguration on account of the bleeding or location of the tumor on the bladder wall it would be better to let things take their course until the cystitis became so bad and clots could not be evacuated and the patient began to suffer with tenesmus and frequent urination and when he was brought to that point it would be better to do a suprapubic cystotomy, making a permanent fistula over the bladder and carry on permanent drainage for the rest of his life.

We had a case here last year where I opened the bladder and found malignant disease, very extensive in type, so extensive that I considered it impossible to attempt an excision and so instituted permanent drainage of the bladder. The patient was very comfortable in the hospital for a year and finally went out and got married some four or five months ago and is still living

comfortably with his wife. I cannot, however, say as to how comfortable she may be; but the patient is being taken care of better than he ever was in his life before.

Questions by Auditors and Answers by Dr. Morton:

Q. Does the hemorrhage ever stop of itself?

A. In the early stages hematuria generally ceases for a time but begins again, but it is always a symptom of some serious underlying condition although we do occasionally meet with a hemorrhagic nephritis and if the kidney clears up and the congestion stops, the blood goes away and it does not recur.

Blood in the urine generally means some serious condition, either tumor, or stone, or hypernephroma. If it is followed up and correctly diagnosed you can perhaps save the patient's life by operation, but if it gets too far nothing can be done; for instance, in hypernephroma you get metastic deposits all through the body but if you take the kidney out before metastasis occurs patient's life may be saved. The kidney may be destroyed by the presence of calculus, but if you can see the case soon enough you can take the calculus out and leave the kidney in, preventing any further disorganization. In tuberculosis of the kidney you take out the tuberculous kidney and the patient lives on the other kidney and more than half of those cases get permanently well. So it is with bladder tumor. If you can take the tumor out soon enough that is the end of it.

Q. Is the ingestion of gelatin of any advantage in controlling the hemorrhage?

A. I have never tried it.

(In connection with the above question one of the physicians present stated that he did not see that the ingestion of gelatin would be of any value in this condition for the reason that the gelatin would have undergone a chemical change long before it reached the stomach, sufficient to render it valueless, but stated that a remedy that was in use some years ago was turpentine (terebinthina); that it worked well there and stopped the hemorrhage and that he saw no reason why it should not be as efficacious at the present time.)

Q. (By the same doctor): Thyroid extract?

A. I have used thyroid extract—injected into the bladder, for the cystoscopic examination, and we have stopped the bleeding temporarily—long enough to go on with the cystoscopic examination.

We have a good many cases of hematuria in the hospital and we depend more upon putting them in bed and using a permanent catheter and use the 1:1000 nitrate of silver bladder washing.

(The question of calcium chlorid was brought up as a means of controlling the hemorrhage and Dr. Morton stated that this is used to increase the coagubility of the blood.)

Q. Is it ever necessary to open the bladder by suprapubic cystotomy and pack it to control hemorrhage?

A. I can remember my first case of this sort. I had removed the prostate by the suprapubic route and the bleeding was so free that I could only control it by packing the cavity of the prostate and the entire bladder with gauze. The bladder was filled with gauze and when I went home that night I lay awake in bed and wondered what became of the urine because the bladder was packed full of gauze. I had the hemorrhage controlled, but the question in my mind was, where was the urine? The next day I saw the man in bed and he was quite comfortable. I said to him, "Are you passing any water?" and I was told, "Yes, he is saturating his dressings." The urine was running out all over his abdomen and I felt relieved. I took off the outer dressing and the gauze had acted like a lamp wick and the urine was soaked up by the gauze just as if he didn't have anything in there at all, so that I have not had any fear since that time about packing the bladder when it was necessary

Q. Would transfusion of blood be useful?

A. Transfusion of blood, I suppose, would be usefui where you get a case of hemophilia, but in this case I do not think it would do any good. The bleeding comes from the tumor. Fulguration will stop the bleeding.

Q. Could you do sufficient fulguration at one time to control the hemorrhage ?

A. I have two private patients now on whom I have done fulguration and after a couple of fulgurations the bleeding has stopped. To illustrate the effect of the Oudin current, I have taken a piece of raw meat and, taking the end of the wire, I have shoved it into the meat, turned on the current and it shriveled it up and broiled it for a distance of a quarter of an inch around the wire. The current cooks everything and, of course, shuts off the vessels and coagulates the tissues and stops the hemorrhage. I suppose that if you were to get a case of carcinoma early enough, before it has extended into the tissues, you would be able to destroy the whole growth, but generally when these patients come in the tumor has infiltrated the tissues so extensively that you cannot do that.

32 Schermerhorn St., Brooklyn, New York.

Current Orientation

Sero-Diagnosis of Pregnancy By The Dialysation Method.

C. F. Jellinghaus and J. R. Losee of the New York Lying-in Hospital describe this method, based on their findings from the examination of serum of 563 different individuals, 370 of whom were known to be pregnant and 193 non-pregnant. In a long and very comprehensive article they discuss the subject under these headings: The principle upon which Abderhalden's biological test for pregnancy is based; description of his two methods with a detailed account of the technique of the dialysation method as improved by him; importance of carrying out Abdarhalden's technic and tabulated results of tests.

Abderhalden's test is based on the principle that digestion effects a complete reduction of the various food stuffs by ferments. Digestion therefore consists of a distintegration process of food of a foreign species into many kinds of "Bausteine," thus preventing substances foreign to the blood from entering the general circulation while those native to the blood do enter. There is no proof that the entire breaking up into simple "Bausteine" occurs in the intestinal tract. However, when species-foreign foodstuffs, which are foreign to the blood, are introduced directly into the circulation it is a well-known fact that anaphylaxis occurs and such substances he proved are reduced by the blood and lose their individuality.

When dog serum and cane sugar are mixed in a ploariscope tube no rotation takes place, but if on the other hand, the dog has been injected intravenously with a solution of cane sugar and his serum is later mixed with sugar in a polariscope tube rotation takes place, cleavage having been caused by the ferment present in the serum after injection. Thus, when species-

foreign substances, which are at the same time foreign to the blood, are introduced into the circulation, they are split up by ferments which they themselves mobilize.

The next question which confronted Abderhalden was whether substances native to the body may be foreign to the blood and therefore are split up by ferments which they mobilize. This he proved affirmatively by using kidney tissue of a dog which he introduced into the circulation of another animal of the same species. When some of the latter dog's serum was mixed with kidney tissue in a polariscope tube, rotation occurred. Thus cleavage of the proteins in the kidney took place by the ferments in the dog's serum. Hence, substances though native to the body, can be foreign to the blood because, when thrown into the circulation they mobilize ferments which cause their cleavage.

Schmorl, Veit and Weichardt demonstrated that chorionic epithelium enters the circulation during pregnancy although they did not state that this change took place during the first month. That chorionic villi are present in the fertilized ovum in the first month has been proved by H. Peters, H. Strahl and R. Beneke, T. H. Brice and J. H. Teacher. With these facts at his command and the knowledge that protein native to the species may be foreign to the blood and will mobilize ferments capable of splitting up such native protein when the latter is introduced into the blood, Abderhalden evolved the sero-diagnosis of pregnancy.

However, Abderhalden emphasizes that while the chorionic villi in the blood of pregnant women was the hypothesis that suggested this test, it is quite possible that the mobilization of ferments may be due to a more general exchange of substances between the placenta and the maternal blood. Now, with the chorionic villi in the blood, proteolytic ferments are mobilized in a pregnant woman's serum which will cause cleavage of human placental albumen and change it into peptone and amino-acids. He states that these ferments appear as early as six weeks from the first day of the last menstruation and continue to be present up to 15 days after the termination of pregnancy. On the other hand the serum of nonpregnant individuals does not contain a ferment capable of causing cleavage.

It is unnecessary to go into the details of the technic which is elaborate and we will content ourselves with a resumé showing the important part played by ninhydrin, seidenpeptone and the dialysers.

The authors say that: "While our experiences have not absolutely proven Abderhalden's assertion, *we favor the opinion that it is possible by the dialysation method to distinguish between the healthy pregnant and the healthy non-pregnant woman.*" They obtained a negative reaction in patients suffering from the following diseases: carcinoma, sarcoma, epithelioma, abdominal tumor, tertian malaria, gonorrhoeal rheumatism, pyosalpinx with fever, paranoia, hydrosalpinx with fibroid uterus, inflammatory intraligamentous cyst, large ovarian cyst.

Not a sufficient number of patients with various diseases were examined to arrive at a definite conclusion. Abderhalden reported 20 non-pregnant cases with carcinoma in which he obtained a negative reaction. Epstein reported 37 with similar results. Schlimpert and Hendry in their unimpeachable series of 39 non-pregnant sera included some patients with various diseases. On the other hand, some observers reported positive reactions in non-pregnant patients with various diseases including carcinoma. Inasmuch as the authors admit that the serum of carcinoma and fever patients may contain cleavage products of albumen they feel that the positive results were not due to ferment action but rather to errors in technic. These cases should certainly be controlled with inactivated serum and placenta before we accept the correctness of a positive reaction.

Condensed Table of Series of 563 Sera from Different Individuals Examined. From November 14, 1912, to May 28, 1913.

	PREGNANT SERA			NON-PREGNANT SERA		
Series	No. of individual patients	No. of neg. reactions	Per cent of neg reactions	No. of individual patients	No. of pos. reactions	Per cent of pos. react's
1	52	0	0%	19	13	68%
2	15	3	20%	22	13	59%
3A	29	5	17%	11	11	100%
3B	18	9	50%	23	5	21.75%
4	98	24	24.5%	41	14	34%
5A	29	4	13%	9	2	22.25%
5B	40	6	15%	19	2	10.5%
6	89	5	5.5%	49	4	8%
Total	370			193		

Their results with pregnant sera became progressively better as they improved the technic in selecting proper dialysers.

Their results with non-pregnant sera became progressively better as they improved the technic of placental preparation.

At first glance at the table below these statements would not seem true, for the figures do not show a progressive improvement except in the last four series, but a reference to the authors statements under "Errors" and the study of each series in detail, the truth of these statements becomes evident.

1. Series 3A and 3B were carried on under similar conditions except that in 3B the placenta was washed macroscopically free from blood, while this was not done in 3A. The table shows the advantage of blood free placenta when testing non-pregnant sera.

2. Series 5A and 5B were carried on under similar conditions except that in 5B the placenta was macroscopically free from blood, while it was not so in 5A. The table shows the advantage of blood free placenta before using when testing non-pregnant sera.

3. Series 3A and 5A were carried on under similar conditions except that in 5A the placenta was tested daily and although not all, at any rate some dialysable substances were removed, which was not so in 3A. The table shows the advantage of freeing the placenta from all or even some of the dialysable substances daily before using when testing pregnant sera.

4. Series 3B and 5B were carried on under similar conditions except that in 5B the placenta was tested daily and though not all, at any rate some dialysable substances were removed, which was not so in 3B. The table shows the advantage of freeing the placenta from all or some dialysable substances daily before using when testing non-pregnant sera.

5. It was found that we used very dense dialysers in series 4, less dense in 5A and 5B, and still less dense dialysers in 6. Only those in series 6 came up to Abderhalden's requirements. The table shows the advantage of using properly tested dialysers with pregnant sera. This is so in spite of the fact that in series 5B and 6 the placenta contained less dialysable substances than in 5A, and less in 5A than in series 4, a reason for expecting poorer results with pregnant sera.

6. The table also shows that in 4, 5A, 5B and 6 in which the authors successively used less dense dialysers and thus might expect poorer results with non-pregnant sera, they were not so, but on the contrary they improved, which was due to better placental technic.

Useful Hints in Carrying Out the Abderhalden Technic.

1. Washing the placenta free of macroscopic blood is done almost as quickly by cutting it into small pieces

and rinsing repeatedly in 0.9 per cent. salt solution, as when water is first permitted to run through the umbilical vein. The most important point is to begin washing at a moment it is credè'd so that there will be as little clotting as possible.

2. After having freed the placental pieces daily before using of all, or nearly all, dialysable substances, they should first be teased and mixed before weighing. In this manner, if any one large piece contains a small amount of dialysable material it will not all be used for a single test.

3. In testing the dialysers for their permeability of peptone, "Farbwerke-Hoechst seidenpeptone" and not "the Roche seidenpeptone" should be used.

4. Dialyser 579A, made by Schleicher & Schuell, are better than 579.

5. Toluol must be chemically pure.

6. Asepsis throughout is all-important.

7. Ninhydrin which is marketed in 0.1 gm. vials should be re-weighed.

8. When attempting to obtain results in a large series of pregnant and non-pregnant sera never fail to do both on the same day.

9. When inactivated serum and placenta are used as a control, complete inactivation is essential, for ferments have a a hyperactivity just prior to their destruction. To inactivate, the serum was heated on a water bath at 56° C. for 30 minutes.

10. The sensitiveness of the reaction depends upon the concentration of the ninhydrin and dialysate, which occurs during boiling. Therefore the dialysate of the serum to be tested and that of its controls, the known pregnant and non-pregnant sera, must not only be boiled exactly one minute with ninhydrin, but the same flame must be used so that the amount of evaporation is the same in each. The latter is best checked by measuring what is left in each beaker after boiling, the amount should always be the same.

Controls. Abderhalden's technic calls for a placenta alone and a serum alone *or* an inactivated serum with placenta control.

Most writers confine themselves to placenta alone and serum alone. The authors controlled with serum alone and placenta alone in all cases and only inactivated occasionally. Now considering that the quantity of ninhydrin necessary to make the test does not detect very small amounts of dialysable substances, one may obtain a negative reaction with serum alone and also a negative reaction with placenta alone, though each may have contained dialysable substances in quantities too small for a positive reaction. The combined amount, on the other hand, may be enough for a positive reaction. For example, if 0.00001 gm. in 10 cc. of water represents the minimum amount of dialysable material which will give a positive reaction with 0.2 cc. of a 1 per cent. solution of ninhydrin and the non-pregnant serum contains 0.000009 gm. of dialysable substances and the placenta contains none, all the controls would give a negative reaction. But on the other hand, if the serum contains 0.000009 gm. and the placenta 0.000001 gm. the serum and placental control would each be negative and the control with placenta and inactivated serum would be positive. In testing a pregnant or non-pregnant serum mix serum and placenta together and therefore to get accurate results they should also be combined in the control. If we omit the latter we can readily make Abderhalden's claim appear erroneous. For example:

1. A case is considered non-pregnant if test and control both give a negative reaction or if both give a positive one of the same shade.

Example: A known non-pregnant case with serum and placenta each containing dialysable substances in an amount too small to give a positive ninhydrin reaction, but which when combined are sufficient to give a positive reaction. If only the serum alone and placenta alone were used as controls, they would each be negative, while the test consisting of placenta mixed with serum would give a positive reaction. This case could therefore be used to disprove Abderhalden's claim. On the other hand, if we had used the inactivated serum and placenta as a control, both test and control would have given a positive reaction of the same shade, the case would have been considered non-pregnant and Abderhalden's claim would be upheld.

2. A case is considered pregnant if the test gives a positive reaction and the control a negative or a positive one of a lighter shade.

Example: A known pregnant case with serum and placenta each containing dialysable substances in an amount too small to give a positive reaction but which, when combined, are sufficient for a positive reaction. If only the serum alone and placenta alone were used as controls they would each be negative while the test consisting of placenta mixed with serum would give a positive reaction. Such a case would be called pregnant but it would not be a proof that the reaction was due to ferment, for it may have been due to the combined dialysable substances in serum and placenta. On the other hand, if the control had consisted of inactivated serum and placenta, both test and control would have been positive. If the test were of a deeper color than the control the case would still be called pregnant but the presence of a ferment would have been proven and Abderhalden's claim upheld.

If we could be certain that the combined amount of dialysable substances in placenta and serum were insufficient for a positive ninhydrin reaction, this control would be unnecessary. However, since in fever and cachetic patients the serum may contain such substances, and since we may at times be compelled to obtain serum after a meal, and since we have sometimes found it impossible to get placental albumen free from them, we believe that it is not only safer but *essential to control with inactivated serum and placenta.*

The serum is obtained in a sufficiently large quantity so that it may be *tested in two different dialysers.* If the result is the same in both, the interpretation of this particular case is more convincing. If the results are different, we know that an error has been made.

We have always worked with known pregnant and known non-pregnant sera. When a doubtful serum is to be tested it must be controlled *with a known pregnant and a known non-pregnant and their controls.*

Jellinghaus and Losee conclude with this statement:

Whereas, we have often read that this is a test for pregnancy or non-pregnancy, we should prefer to call it a test for the presence or absence of chorionic epithelium still capable of being washed into the general circulation. It is therefore not always useful as an aid in diagnosing an ectopic pregnancy, for if the ectopic had been followed by a tubal abortion and hematocele, the test would not necessarily give a positive reaction even though Abderhalden's claims are a fact. If the reaction were positive it would not aid us in differentiating between an early intrauterine pregnancy with diseased adnexa and an extrauterine.

If Abderhalden's claim is a fact the test may be useful in the following:

a. Diagnosing early pregnancy, especially in single women in whom an examination is refused.

b. Differentiating between uterine myomata and pregnancy.

c. In diagnosing chorio-epithelioma.

d. In diagnosing or excluding pregnancy in nursing women with amenorrhoea.

e. In differentiating between pregnancy and other causes of amenorrhoea (change of climate, tuberculosis, diabetes).

f. In differentiating between pregnancy and menopause in women with an enlarged uterus due to metritis.

g. That it opens a field for diagnosis in other diseases in which ferments are formed.

h. It offers a possible method for obtaining further information about the toxemias of pregnancy.—*Bulletin of the Lying-In Hospital of New York,* June, 1913.

The Results of Tonsillectomy Under Local Anesthesia.

Bryan DeForest Sheedy, M. D., of New York, read a paper on this subject at the last meeting of the A. M. A. in Minneapolis.

All of the one hundred cases reported upon by the author were examined several months after operation and no patient under fourteen years of age was operated upon under local anesthesia. There was no grouping of the patients examined as to whether the throat conditions were the result of operation under local or general anesthesia. The enucleation of the tonsils had been performed by some one of the many methods in vogue for the last few years for the complete removal of the gland and as the operations were performed in practically all the public institutions in New York City many men of prominence in laryngology were the operators so that the results could not be attributed to poor technique on the part of one man.

The author arrived at the conclusion that tonsillectomy, so far as removing pathological tonsils is concerned, is a better operation than the old time tonsillatomy, but pointed out that many of the throat defects following the operation of enucleation are due to clumsy and non-surgical technique.

He also pointed out the normal relation of the surrounding parts to the tonsil and put up a strong argument against the use of sharp instruments for the dissection of the tonsil from its bed, that being the cause of injury to the muscles with resulting deformities.

Of the one hundred cases examined months after operation more than 80 per cent. of the patients had deformed throats. The 20 per cent. of patients, with what appeared to be normal throats following the operation, were inconvenienced in no way at any time following the operation. Of the eighty patients thirty-four complained of speech defects for from one to three weeks after operation, sixteen complained of speech defects for more than three months after operation, while four had practically lost the singing voice. About 25 per cent. of the patients stated that their throats felt better and that they could speak and sing better after operation than before. Inability to use certain words had continued with 5 per cent. of the patients for more than six months after operation.

The variety of deformities following enucleation were classified as follows:

(1) The pillars on both sides had disappeared with the soft palate tightened to such an extent that the opening at the nasopharynx was narrowed.

(2) The pillars on both sides had grown together.

(3) The anterior pillar had wholly disappeared with a large amount of cicitricial tissue deposited on the posterior pillar.

In the four patients whose singing voice had been seriously affected the posterior pillar had disappeared through amalgamation with the anterior or with the lateral wall of the pharynx.

The reader emphasized the fact that he did not think the last word had been said in regard to tonsil enucleation and proposed as a remedy for preventing the unsatisfactory throat results an operation for removing the tonsil by what he called the "Eversion Method" and with charts and diagrams pointed out that the capsule of the tonsil is simply a bag, the bottom of which may be pulled through its mouth so that its inner surface becomes the outer and that if the capsule with its glandular tissue is everted and a snare placed on, removing the tonsil with its capsule complete (there being no dissection and therefore no injury to the muscles surrounding) there would be no deformities.

The exceptions to the rule presented, viz., that the tonsil will evert on traction, were:

(1) Those cases in which the capsule was bound down to the surrounding tissues by previous attacks of inflammation.

(2) Those cases where the capsule was very much contracted and contained cicitricial tissue only.

(3) Those cases of hypertrophied tonsils which had everted themselves and the tonsil was found everted when the patient applied for treatment.

The points advanced in favor of the procedure were:

(1) Simplicity of the operation.

(2) Practically no hemorrhage.

(3) Little or no deformity following the procedure.

(4) Only three instruments necessary for the operation, viz., tonsil tenaculum, blunt pointed tonsil knife, tyding snare.

Prison Conditions.

The recent revelations concerning the grossly insanitary conditions prevailing in our penal institutions have properly shocked the uninformed public, but they have added nothing to the knowledge of many private and official workers who for many years have been endeavoring to effect reform. Among the most efficient private workers has been a member of the profession, Dr. Beverly Robinson, of New York, who has devoted much of his time to problems of prison reform. He has done valiant service for all phases of such reform. All these good people must be mightily cheered by the recent turn of events. Our Prison Commission has also been outspoken in its annual reports, and an examination of these reports will show that there has been no dereliction on the part of the Commission in calling attention to abuses and indicating needed reforms. We read reports two years ago that were horrifying.

If men are made to live like beasts, and are treated like beasts, they will act like beasts. What is the good of a penal system that matriculates unfortunate men and graduates them beasts? For what purpose do we maintain it other than political patronage and the blasting of the souls and bodies of those who have gotten out of step with our abominable social treadmill?

It is to be hoped that the prison system is in process of partial reform. The complete revolution that is needed in our methods of dealing with so-called criminals, in the main only by-products of what Professor Alfred Russel Wallace calls the rottenest social order that the world has ever seen, we can hardly as yet hope to see.

Women should be taught that itching and a vulvar watery discharge in old age may mean the beginning of malignant disease.

The Medical Times

A MONTHLY JOURNAL

OF

Medicine, Surgery, and Collateral Sciences

ESTABLISHED IN 1872

EDITED BY

H. SHERIDAN BAKETEL, A.M., M.D.

Original articles and clinical communications will be welcomed, if given for exclusive use in this journal.

When authors furnish drawings or photographs, the publishers will have half tones and line cuts made without expense to the writers.

SUBSCRIPTION RATES:
(STRICTLY IN ADVANCE)

UNITED STATES, - - - - - - - - $1.00 per year
(Including Alaska, Cuba, Mexico, Porto Rico, Hawaiian and Philippine Islands)

CANADA, - - - - - - - - - - $1.25 per year

FOREIGN COUNTRIES IN POSTAL UNION, - - $1.50 per year

SINGLE COPIES, 15 CENTS

Definite written orders for THE MEDICAL TIMES are required from all subscribers, to whom the journal is thereafter regularly forwarded, until written notice to discontinue is sent to the publisher.

All communications should be addressed to and all checks made payable to the publishers,

MEDICAL TIMES CO.

ROMAINE PIERSON, *President and Treasurer*

H. SHERIDAN BAKETEL, *Secretary*

108 Fulton Street, - - - New York

Entered as second-class matter, Post Office at New York, N. Y., Act of Congress of March 3d, 1879.

NEW YORK, AUGUST, 1913.

Anent the College of Surgeons.

There seems to be a disposition on the part of some editorial writers who have commented on the formation of the American College of Surgeons to believe that the institution may not fully serve the purpose for which it is intended. They fear the great power given the governing body may be abused at some future time; that the title F. C. S. may be used for self-advertising and that the college will infringe on the rights of medical democracy.

We cannot persuade ourselves that these fears are in any way justified. In every great movement for the betterment of mankind there is certain to be some injustice done to good men, but having the greatest good to the greatest number in mind, we feel that most of the worthy surgeons will be admitted to membership in the college and most of the unworthy candidates will be rejected. An inspection of the names of those in authority very hastily dispels any thought that knowing injustice will be visited upon any person. Some of the elect will fall and some of the unregenerate may be chosen, but a little time will rectify matters and will prove the great wisdom of Dr. Martin and his associates in bringing about the creation of the college.

Undoubtedly the F. C. S. will be an advertising mark and this was one of the reasons for the institution's inception. Under the methods now in vogue in America, a physician can only use the "Dr." or "M. D." on his sign. Consequently those titles stand for the entire gamut of specialists from the aurist through the alphabet to the urologist. There are no distinguishing letters whereby one medical man can be differentiated from another. The F. C. S. appended to the name of a medical man signifies that he is a surgeon and all things being equal a surgeon of ability. We doubt if his income will be largely increased by the possession of this title, but it will give him the hall mark of distinction, which his talents have earned for him and as such it may be looked upon as an advertising means. As the ethics of the medical man do not permit him to advertise in any of the usual methods, we cannot see the slightest reason why he should not adopt the ethical means, such as the reading and publication of articles, the teaching in medical schools and a connection with hospitals. If the F. C. S. will aid the profession in determining the fitness of a medical man as a surgeon, we urge the speedy adoption of the title by those qualified.

The infringement on the individual rights of the physician is hardly worthy of consideration. Physicians are no more equal than laymen. Our constitutional forefathers created all men free and equal by the signing of a document and theoretically the idea is perfect. It does not, however, work out practically, or we would all occupy either the highest or lowest station in life. Men are equal only so far as their God given gifts and their acquired attainments make them.

In the medical profession of this day most medical men start out fairly equal, so far as theoretical professional knowledge is concerned. But some have the added advantage of a collegiate and hospital training or an abundance of post graduate study and those men often forge to the front. Consequently we commence to notice within a few years after graduation that some men are progressing and assuming a commanding position in the profession, while others are stationary and others even retrogress. It is idle chatter to speak of equality then, for the survival of the fittest always shows the calibre of the individuals.

The formation of the College of Surgeons will not affect our medical democracy one whit. It will give recognition to those who have won recognition by their deeds and after all it is only real actions that count in the winning of the battle. The doer of deeds always conquers.

We welcome the College of Surgeons as an institution that will place American surgery upon the high plane it deserves, that will separate the wheat from the chaff and will ultimately make all men know that each individual member of the college is most worthy and well qualified to practice the art and science of chirurgy.

Bi-Sexual Man.

Out of Chicago comes the glad tidings that it is easily possible for man to attain to his primordial state, which we are assured was bi-sexual. Francis Buzzacott and Mary Isabel Wymore are the joint authors of a book which tells us how man may become a perfect creature, having little need of other nourishment than the vital fluids of the atmosphere. The grand possibilities which the future holds in store for the human race include eternal life, eternal virtue, vigor, health and beauty—free from every taint of corruption, decay, pain, sickness, weariness, or death. Bi-sexual man, his ovatestis regained, will once again reproduce himself, as he did of yore, before the degradation of sexual intercourse lowered him to his present estate. Thus all the social problems resting upon artificially ordained sex inequalities will be automatically solved. And there are other advantages—chiefly *spiritual* in nature.

Out of the traditions or "myths" of ancient peoples, many of which assert the bi-sexual nature of the gods (who, our authors say, were really men of extraordinary longevity and superhuman powers), and the facts of atavistic reversion, hermaphroditism, etc., our authors have woven their somewhat astonishing fancies. It was incest, if you please, between our bi-sexual progenitors, which started all our trouble and differentiated

the sexes. Instead of sticking to the respectable custom of reproducing themselves without the aid of their bi-sexual friends, our god-like forefathers lapsed morally, hence our degraded unisexual race.

The authors lean largely upon certain statements of Darwin and Huxley in respect to the probability of man's early bi-sexuality. It appears that many of the writers on evolutionary topics do accept such a theory of man's origin. The remarkable feature of the book in question, however, is the attitude of the authors toward the practicability of attaining the bi-sexual Nirvana. One is naturally impelled to ask this gifted pair why, if our interesting progenitors fell from grace in the dim primordial days, a similarly endowed race might not fall again, particularly in view of our several thousand years of unisexual experiences, reminiscences of which would surely, it seems to us, prove demoralizing to the most chaste of bi-sexual beings.

The theory is interesting and no doubt many will be eager to embark upon such a great adventure. A new cult, at least, ought to grow out of such finely spun fancy. It must not be forgotten that the authors insist upon the entire practicability of the thing.

The authors have thoughtfully included their portraits. We have studied them carefully. The man is handsome and the woman pretty. They are not unusual types, however. There is certainly nothing god-like about their features.

Against Eugenics.

Dr. Alfred Russel Wallace, in his new book, "Social Environment and Moral Progress," sets forth his faith in the efficiency of natural selection as a check to humanity's evils, and scores our direct dealing with glaring social conditions, such as race degeneration and the various forms of sexual immorality. He considers such direct dealing fundamentally wrong and doomed to failure so long as widespread poverty, destitution and starvation are not greatly diminished and ultimately abolished. He does not believe that human nature is in itself such a complete failure as our modern eugenists seem to suppose, but that it is influenced by fundamental laws which under reasonably just and equal economic conditions will automatically abolish all social evils. Wallace also shows that the dread of overpopulation as the result of the abolition of poverty is wholly and utterly fallacious—a mere bugbear created by ignorance of natural laws and presumption in thinking that we can cure social evils while leaving the man-made causes which produce them unaltered.

Wallace argues for moral progress and a new form of selection, indicated and described by Darwin and named by him sexual selection. The latter Wallace believes "possesses the potentiality of acting in the future so as to insure intellectual and moral progress." In this manner the race may be elevated "to whatever degree of civilization and well-being it is capable of reaching in earth-life." Wallace declares the science of eugenics to be not only totally unnecessary, but a much greater source of danger to morals and to the well-being of humanity than the mere temporary evils it seeks to cure. He regards as "in the highest degree presumptuous and irrational" efforts "to deal by compulsory enactments with the most vital and most sacred of all human relations," and insists that an absolutely "free selection in marriage" will in the end cure the evils that the eugenists would stamp out through artificial means.

These words of one of the greatest thinkers of the age on this supremely important subject should be well pondered by those fascinated by the proposals of enthusiastic eugenists.

It is of interest to note in this connection that while some clergymen in New York and vicinity have declared for the so-called "eugenic marriage," others are decrying the idea. At the meeting of the New York Methodist Ministers' Association on June 9 some of the speakers attacked the health marriage crusade and one said: "Why should the clergy demand more than the parents of the bride?"

Here is the danger of allowing enthusiasm to overbalance judgment and expediency in treating the matter.

On General Practitioners.

"The passing of the general practitioner" has become a fixed phrase. It is part of the "patter" of one wing of the profession which has a habit of arbitrarily assigning everything in the universe to some definite place, class or condition in the most final manner. These people with a bent for arranging society and who insist that any arrangement they decide upon must be regarded as settled and permanent, all existing facts pointing to the contrary to be ignored, after all only define things as they would like to see them.

And so we are asked to assume that the general practitioner does not exist. At least his passing is vehemently affirmed and reaffirmed. One of the Mayos in a recent address in Boston said something like "good riddance" to him. In vain does Jacobi deny his passing and point out that he is not only more indispensable than ever but that no physician worthy the name can fail to act in such a capacity throughout much of his life, if he is to acquire familiarity with the protean manifestations of disease and develop a rational medico-sociologic perspective, to practise even a specialty with wisdom, skill and success, and generally to justify his physicianship. Even with specialism running riot it is silly to deny the necessity of general training, general practice, and intimate association with every phase of disease, unless we are to degenerate into a kind of mere artisanship. The shortcomings of the specialist who has never been a general practitioner are nearly always painfully evident in his work, in his manners even, and in his character. Such general practice must be private as well as institutional to effect the best results.

It is perfectly true that a certain type of general practitioner is passing—the man who does an incredibly large amount of general work in a slipshod manner—but he is in process of supplantation by a new type of general practitioner, a better trained man who does his general work in a careful, deliberate, skilful and adequate manner. This man is competent, scientific, and not obsessed with commercial ideas of practice, although he commands better pay for his higher grade of work than his overworked predecessor. It is this type of practitioner that the profession and the public need even more than they need the specialist, and the profession should foster this new type. We do not say that the profession should recognize him, for he is recognized. He is among us and increasing, and we all know it. This man is keenly alive to the demands of an enlightened age, both in respect to scientific attainments and as regards the medical aspects of social service.

Let us have an end of this confused thought on a matter that is perfectly clear and evident. Specialism has gone too far in its attempt to destroy the physician in his very best professional manifestation. Let such a type, medicine's best flower, flourish.

A Novel Method of Controlling Rectal Hemorrhages.

One of the most ingenious procedures which we have encountered is that described by B. L. Myers in a recent number of the *Journal of the American Medical Association*. It was devised by Myers for the control of rectal hemorrhages. A piece of gauze about eighteen inches square is spread in a single layer over a Kelly proctoscope, and petrolatum is rubbed into it thoroughly. The proctoscope is then inserted into the rectum well past the sphincters. The obturator is withdrawn and the invaginated piece of gauze is packed, through the proctoscope, with a ten yard, one inch gauze bandage, the proctoscope being withdrawn as the invaginated gauze is balooned up. When the packing fills the rectum and the proctoscope is withdrawn, the loose edges of the invaginated gauze are twisted tightly together, which binds the packing into a hard mass. The hemorrhage is thus completely stopped. Thirty-eight hours later the packing may be easily withdrawn without hurting the patient or starting the hemorrhage again, by catching the external end of the bandage used as packing and drawing it out. The invaginated piece of gauze collapses and easily slips out.

The Dancing Mania.

The dancing epidemic which the country is witnessing recalls in some respects the dancing mania of the Middle Ages, which has been frequently discussed in the literature of neurological medicine. The ragtime and turkey trot manias appear to be contagious in much the same way that the medieval manias were. They are alike also in respect to widespread prevalence, the populations of whole continents being affected. These neurotic phenomena have been ascribed to widespread neurasthenia, due to unrest and other pathological social conditions. These and the naive determination to be "amused" that characterizes the masses, together with the peculiar influence of a type of "music" which seems to set up characteristic motor reactions, account for the specially sensitized class which may be observed in action day and night almost anywhere in the country. This class illustrates well the principles laid down by M. Le Bon, that authority on the psychology of the crowd. Then it has been pointed out that many ragtime tunes are versions of negro revival hymns, which perhaps introduces an element of *quasi*-religious emotionalism and also recalls the interesting fact that dancing has always been connected with religion, especially Pagan religion. The instinct to dance is a very primitive one, and through the dance certain emotions find outlet and expression. There is a normal and an abnormal phase to the subject, however, and we are inclined to think that it is the latter that finds exemplification in ragtime and trotting.

Child Welfare.

The bulletin recently issued by the new Chlidren's Bureau of the Government is the first of a projected series of authoritative annual manuals for municipal and philanthropic activities.

The bulletin emphasizes the fact that there is practically no limit to the results of campaigns against the preventable diseases which account for the major part of infantile mortality. It would be possible to control these diseases almost completely did finances permit. Even with their limited resources health officials and private agencies have reduced the infant death rate in large cities remarkably.

"Public health is purchaseable; within natural limitations a community can determine its own death rate."

Medical Editorial Table

Summer Resort Sanitation.

Out of 377 summer resorts inspected by the New York State Board of Health in 1911, 257 were found to have little or no sanitary provision for the accommodation of their guests. It seems that if a summer resort fulfills the gastronomic and social requirements of its guests nothing more is required of it. The practising physician who is, after all *the* modern sanitarian, must inform himself as to the sanitation of summer resorts before he recommends one. He must impress his knowledge on his patients, and in this way on the community at large. Without the cooporation of the public, gained through the influences of the physician, the finest and most highly organized sanitary authorities can do nothing. On the other hand, the boards of health should lay a strict quarantine against places operating as summer resorts whose sanitary provisions are not adequate. It is a pleonasm to say that an establishment which caters to a large number of persons for profit should be compelled to protect them against disease. It should have a properly protected water supply, a proper and efficient means of sewer disposal, or else be closed as a public nuisance. The yearly autumnal increase in the typhoid incidence in large cities having a protected water supply is largely due to importations by returning summer resort patrons. The mere installation of modern plumbing fixtures in a house, without means of disposal of the sewage after it leaves it, is not adequate. Nor is a lake resort which draws its water supply from the very water in which the people bathe, into which the kitchen and laundry waste is directly run, and into which the sewage has no difficulty in percolating through the soil, in the short distance from house to lake, a sanitary place. It is quite within the police "power" of the State to license every summer resort so that it can carry on its business only on condition that it fulfills specified sanitary regulations laid down by the State health authorities, and confirmed by periodic inspections. The legality of these requirements under "police power" comes from the fact that they are necessary for the "health, welfare, safety, and even convenience" of the public in general, or even of a class of the public. A court has already decided that a municipality which is an "agent of the State" is liable for typhoid fever contracted by allowing the water supply to be contaminated. —(*New York Medical Journal*, June 14, 1913.)

Camphor in the Treatment of Pneumonia.

Some years ago August Seibert, of New York, published a report of a number of cases of pneumonia treated by hypodermic injections of large doses of 20 per cent. camphorated oil, and also gave the results of a number of experiments with camphor injections in rabbits previously inoculated with cultures of the pneumococci. Seibert's observations have been confirmed recently by Leo of Bonn, who has made two contributions to the literature of the subject. In the first of these the author says that the experiments thus far made in cases of pneumococcus infection indicate that "camphor has a specific action against pneumonia," and in the second he quotes from Ehrlich to the effect that Böhnke, experimenting on mice in the Institute at Frankfort, had succeeded in curing pneumococcus infection by subcutaneous injections of camphor oil. Iverson also, in 1912, reported good results with injections of 20 per cent. camphor oil, and noted that the toxemic symptoms were markedly ameliorated in all cases, even in the alcoholics and in those who finally succumbed. These

observations of Seibert, confirmed by workers in Bonn, Frankfort and St. Petersburg, the favorable results obtained by Wright in the use of mercury succinimide, and the earlier successes with creosote carbonate, the salicylates and calomel should suffice to down the pessimism which so long dominated the therapeutics of pneumonia and other infectious diseases, but which is now disappearing along with the dying school of therapeutic nihilists.—(*Medical Records*, June 7, 1913.)

The Preventive Value of Pasteurization.

One would think that with all the agitation we have had of late years on the milk question that epidemics caused by milk would be on the decrease. As a matter of fact, they are on the increase. Boston, Chicago and Baltimore have suffered much recently from milk-borne disease epidemics of scarlet fever, tonsillitis and typhoid. It is a matter of record in all of these epidemics that they were caused by raw milk or by improperly pasteurized milk, and as soon as the milk was ordered to be properly pasteurized the epidemics at once ceased. No amount of inspection can prevent these epidemics. It has been declared that even if a physician was placed on every farm supplying milk, one could not guarantee that the milk would be safe. The solution of the problem lies in pasteurization, not only under official surveillance, but in the final container, or by some other method that would insure that all the milk be heated to the required temperature for the requisite period of time. The only sure method of safeguarding milk consists in heating it to a temperature of 145 degrees and holding it at that temperature for thirty minutes. At least five diseases may be transmitted by milk: typhoid fever, diphtheria, scarlet fever, sore throat and tuberculosis in children. There is no record of an epidemic of disease traced to milk that has been heated to a temperature of 145 degrees for thirty minutes.—(*Boston Medical and Surgical Journal*, May 29, 1913.)

The Bedbug.

The alleged humor of which *Cimex lectularius* has been the subject should not obscure the serious rôle played by the bug in common with the fly, the mosquito, the flea and the louse as a conveyor of infection. Relapsing fever, bubonic plague, kala-azar, smallpox and typhoid fever have been transmitted by various species of the bedbug, and possibly the investigator might find here the explanation of otherwise inexplicable endemics in uncleanly neighborhoods. Epidemics of smallpox have been disseminated in cheap lodging-houses by this polecats among insects; and were it not for the frequent vaccinations compelled by health authorities, such epidemics would very likely be more frequent than they now are. A thorough extermination of the bedbug would result also in the extermination of other dangerous insects infesting houses. The local application of boiling water will kill a few bugs and drive others away, but serious efforts at extermination require fumigation. To be thorough, this should be done systematically by the municipality. Manning has called attention to bedbug extermination as one of the measures to be employed in the prevention of all diseases whose virus is present in the blood of the host during the acute stage of the disease. Of all methods Manning says that there is none which would exceed in effectiveness the annual compulsory municipal fumigation of all habitations of man.—*J. A. M. A.*, June 14, 1913.)

The Susceptibility of the Gonococcus to Heat.

The gonococcus cannot resist a temperature of 104° F. for six hours. This fact, together with the observation that in high fever a gonorrhea sometimes disappears spontaneously, led Harrison and Houghton of the Royal Army Medical Corps to investigate whether this fact could not be used in the treatment of gonorrhea. They found that the urethra will sustain a temperature of from 114° to 119° F. provided it is gradually applied. They therefore had constructed a closed metal catheter, No. 9 to 10 gauge, inclosing a smaller one, No. 2 gauge, about one inch shorter internally, but projecting externally one inch. The small, inner catheter is open at both ends, while the larger, outer one is closed at both ends, but has a discharge outlet near the outer end. The double catheter is passed, and the inner one is connected by rubber tubing with an irrigation vessel elevated about eighteen inches from which a stream of water at 114° F. is allowed to flow, adding hot water gradually till the temperature is attained of 118, 121, 122, or even 125 degrees, according to the tolerance of the urethra. If the temperature is too high the meatus is blistered. The irrigation occupies about one-half hour and a suppository of 1-75 grain of atropine is administered night and morning before treatment. The usual aseptic and lubricating precautions are of course adopted. The authors report 16 cases thus treated of which 11 were acute and purulent, 5 subacute or chronic and watery. The gonococci entirely disappeared in a period varying from the fourth to the eleventh day after the first treatment. The character of the discharge at once changed to mucopurulent or mucoserous and in 6 cases had disappeared by the eighth day, and the administration of stout after the disappearance of the discharge failed to cause its return. There were no accidents of any kind. Epididymitis did not occur, indeed in one recent case with subacute epididymitis that condition disappeared after the first application. This method of treatment, owing to its simplicity, appears to demand a thorough trial at the hands of those who have considerable experience in the treatment of gonorrhea.—(*American Medicine*, May, 1913.)

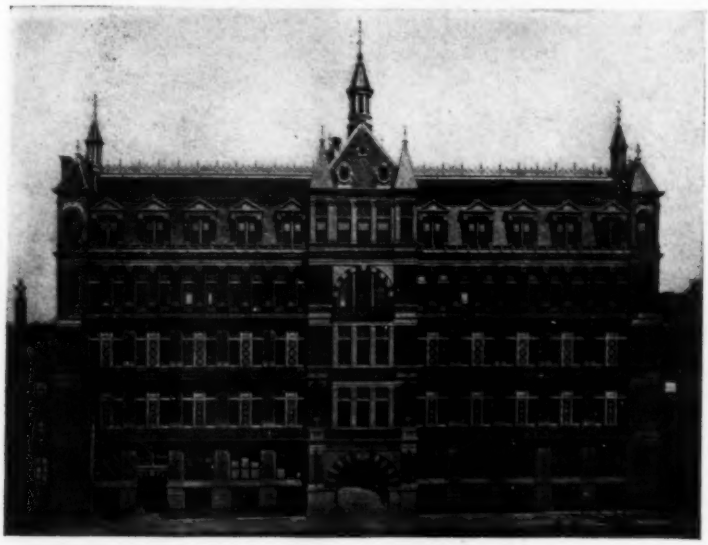
Bacterial Extracts in Gonorrhea.

J. O. Hirschfelder, San Francisco, gives a provisional report of his results in the treatment of gonorrhea by bacterial vaccines. The dose usually given was 5 c.c. intramuscularly. Reaction occurred in a few hours at the longest. Chills and high temperature were followed by general malaise. The treatment of active urethral gonorrhea by this method did not give brilliant results. It seems reasonable to assume when the gonococci are present in the urethra any antibody which might form in the blood would have difficulty in reaching them, but in some prostitutes rather striking effects were produced. In systemic gonorrheal infections the results were quite different and far more favorable, though one or two relatively unfavorable cases are reported. In all the other cases the beneficial results were quickly produced, and a number of case reports are given illustrating this. In three cases of typhoid the typhoid extract from the bacilli was used with apparent advantage, and in two cases of articular rheumatism improvement followed injections of an extract from the culture of an endocarditis streptococcus. Investigations are being carried on with extracts of other germs—streptococci, colon bacillus and the *B. pyocyaneus, B. tuberculosis* and others—and the author hopes that the principle of the production of antibodies by the digestive extracts of the various micro-organisms will prove of value in general applications.—(*J. A. M. A.*, April 5.)

THE HOSPITALS OF NEW YORK.

New York is essentially a city of hospitals. In the five boroughs there are in the neighborhood of 120, including those devoted to general medicine and surgery and the various special branches of medicine.

This number includes the N. S. Naval Hospital in Brooklyn and the U. S. Marine Hospital on Staten Island, owned by the government; the Manhattan State Hospital on Ward's Island and the Long Island State Hospital in Brooklyn, owned by the State of New York; Bellevue, Harlem, Fordham, Gouverneur, City, Metropolitan, Almshouse, Children's, Kings County and



NEW YORK HOSPITAL.

Cumberland Street Hospitals, owned by the City of New York, and the great number of private institutions.

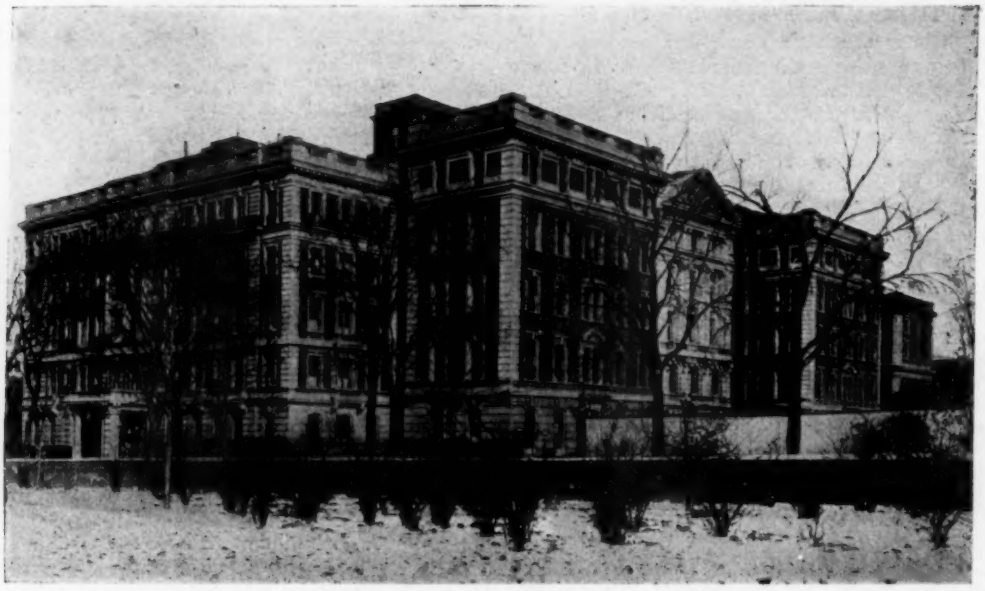
The oldest hospital in the city is the Society of the New York Hospital, established in 1771 by royal authority from King George III. The hospital maintains the main institution in 15th street, the private hospital in 16th street, the House of Relief in Hudson street, the hospital for mental diseases, commonly known as Bloomingdale, formerly at Broadway and 116th street, now at White Plains and the convalescent cottages at White Plains. The governors of the New York Hospital have purchased the block between 54th and 55th streets and 11th and 12th avenues, and will erect there a $3,000,000 hospital, which will be the most up-to-date in the country.

Since its foundation New York Hospital has treated nearly 1,650,000 patients and its House of Relief, locally known as the Hudson Street Hospital, is one of the busiest and best institutions in the city. Its surgical and genito-urinary clinics, under the direction of able specialists, are unsurpassed in the excellence of the treatment given.

Among those who have served the institution as visiting physicians and surgeons, the names of Samuel Bard (1774-1797), Richard S. Kissan (1797-1822), David Hosack (1797-1832), Valentine Mott (1817-1865), Alexander H. Stevens (1817-1869), John Watts (1817-1831), Thomas Cock (1819-1869), Edward Delafield (1834-1838), Alfred C. Post (1836-1886), Gordon Buck (1837-1877), Thomas M. Markoe (1852-1901), William H. Van Buren (1853-1883), Willard Parker (1856-1884), William H. Draper (1862-1901), Henry B. Sands (1863-1883), Robert F. Weir (1876,— still a consulting surgeon), and William T. Bull (1876-1909). In addition to these, many men whose names have been honored as illustrious members of the profession received their first training as members of the house staff. Among these may be mentioned Thomas Cock, 1804; Edward Delafield, 1816; Gordon Buck, 1830; Alfred C. Post, 1830; Alonzo Clark, 1835; Thaddeus M. Halstead, 1839; Thomas M. Markoe, 1841; Cornelius R. Agnew, 1853; Henry D. Noyes, 1856; George F. Shrady, 1858; Robert F. Wier, 1860; James L. Little, 1861; D. B. St. John Roosa, 1861, and many others still living.

The second oldest hospital in the metropolis is the Society of the Lying-in Hospital, established in 1798. It was formerly located in the downtown east side, but a million dollar gift from the late J. Pierpont Morgan made possible the erection of the magnificent structure at 2nd avenue and 17th street, facing Stuyvesant Park. More than 6,000 women are confined by its staff each year. The institution maintains an emergency station in Broome street, known to the east side poor as the "Broome Street Hospital" where physicians and nurses are constantly on duty for emergency calls. The staff of the Lying-in is doing a vast amount of obstetrical research. The review in this issue of the MEDICAL TIMES of the work on Abderhalden's Pregnancy Test by Dr. Jellinghaus and Dr. Losee of the staff shows

NEW YORK LYING-IN HOSPITAL.



MOUNT SINAI HOSPITAL.

the extent of the original work being carried out in the hospital's laboratories.

The great Hebrew hospital of New York is Mt. Sinai, established 60 years ago. It is at 5th avenue and 100th street, has 480 beds and is one of the finest institutions in the city. Although maintained by Hebrews, Mt. Sinai is non-sectarian and people of all races and creeds are found in its wards. There are many denominational hospitals in the greater city, one of the best types is the Methodist-Episcopal, located in Brooklyn. It was heavily endowed by the late George I Seney, but like all similar hospitals, makes no distinction as to creed.

The Presbyterian is a fine type of a high-grade institution. Columbia University has been fortunate enough to ally itself with this splendid plant and hereafter the students of the College of Physicians and Surgeons will have the use of its wards for teaching purposes, as Cornell does at the New York.

The leading Catholic hospital is St. Vincent's, founded 63 years ago and treating about 10,000 cases a year in its finely appointed buildings.

One of the most beautiful hospitals in New York is St. Luke's, surmounting Cathedral Heights, opposite the Cathedral of St. John the Divine and overlooking the Harlem section of New York. It was founded in 1858

METHODIST EPISCOPAL HOSPITAL.

ST. LUKE'S HOSPITAL.

and while owned by the Episcopal church, treated in 1911, 1,036 Episcopalians, 1,428 Catholics, 1,428 of other churches and 324 Hebrews. St. Luke's has a total capital of over $6,000,000. It is one of the most beautifully furnished institutions in the State.

St. Francis' Hospital in the Bronx is a well known institution, maintaining also St. Joseph's Hospital for tubercular patients.

New York is fortunate in its great post-graduate teaching institutions. About 30 years ago the Post-Graduate and Polyclinic medical schools were established and thousands of men have taken courses in them since. About 14,000 men have studied at the Post-Graduate and nearly 12,000 at the Polyclinic. The former institution has 400 beds and the latter 300. The Polyclinic recently moved into a fine new home on West 50th street and its equipment is of the latest and best design. It has a splendid automobile ambulance service.

Both institutions are fortunate in the high calibre of the men on their teaching staffs and in consequence are growing in influence with the medical men of the country.

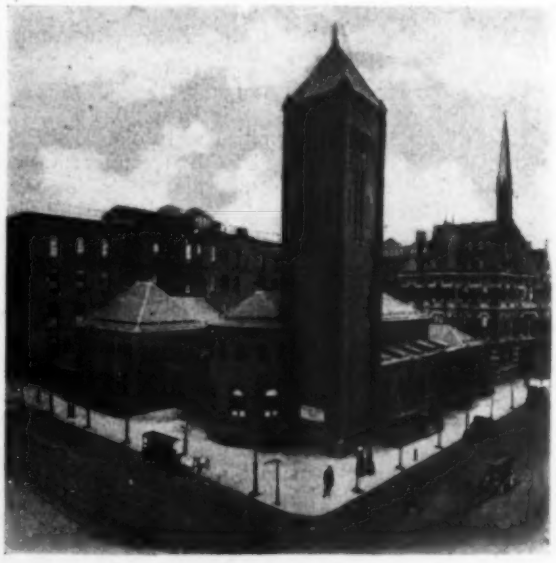
Among the other splendid hospitals in New York are Roosevelt, established in 1871 and located opposite the College of Physicians and Surgeons, treating in the nighborhood of 40,000 patients a year; Flower, connected with the New York Homeopathic College, 50 years old, with a splendid ambulance service and about to have the advantage of a new building; the German, with 56 years of splendid service behind it, the French, Italian, Swedish and Norwegian; all nicely housed and treating their own nationalities and many others; the Woman's, founded in 1855 by Dr. J. Marion Sims, where he and T. Addis Emmett established gynecology as a distinct specialty; Hahnemann, a carefully managed homeopathic hospital; the Lincoln, for the colored race; the Volunteer, a downtown emergency hospital, which is to have a new home; the Red Cross, St. Marks, Lebanon, J. Hood Wright, for uptown west side emergency cases, General Memorial, for cancer and gynecological cases, and the various hospitals for the specialties.

At Bellevue and its allied hospitals about 50,000 cases are annually treated in wards, and nearly 350,000 in their dispensaries. The four maintain 1,700 beds. Of the other city hospitals, the City (formerly Charity) has 750 beds; Kings County, 650; Children's, 600, and Metropolitan, 1,356. About 34,000 patients are annually treated in the wards of these and their allied institutions.

POST-GRADUATE HOSPITAL.

There are many institutions for particular branches of medicine.

The New York Eye and Ear Hospital was founded in 1820, and is the pioneer institution of its kind in America. In this hospital, 1,218,470 patients were treated from 1820 to September 30, 1910. It now has 146 beds, and from October 1, 1909, to September 30,



PRESBYTERIAN HOSPITAL.

THE LONG ISLAND COLLEGE HOSPITAL.—The North Wing in Course of Construction.

1910, 4,451 patients were treated in the hospital, and 40,567 in the dispensary.

The Manhattan Eye, Ear and Throat Hospital was chartered in 1869, and was organized by the late Cornelius R. Agnew and D. B. St. John Roosa, both graduates from the house staff of the New York Hospital. This Hospital treated 5,332 cases in the wards, and 29,880 in the dispensary in 1911.

There are other hospitals of lesser reputation, which are doing excellent work in these lines.

The Babies' Hospital, founded in 1887, is devoted exclusively to the care of infants, and is the only hospital of its kind in the city. Its work is principally along medical lines.

The Nursery and Child's Hospital admits pregnant women to its wards.

The Neurological Institute is doing a wonderful service in furnishing expert service in neurology for the poor. Much high grade operative work on the spinal system is being performed in this institution.

The Hospital for the Ruptured and Crippled, founded in 1863, the New York Orthopedic Hospital, 1868, and the new Hospital for Deformities and Joint Diseases, are special institutions devoted to the treatment of the diseases of the bones and joints, hernia, etc. They have very large dispensaries, maintain workshops on the premises for the manufacture of appliances, and have large operative clinics.

Brooklyn contains a unique institution, a hospital and a medical college, which to the general public are one, but which are in fact two separate entities. The Long Island College Hospital, which has educated thousands of excellent physicians, was the first medical school in the country to introduce bedside teaching.*

The close union between the two institutions is one of the prime reasons for the great popularity this college has enjoyed for more than half a century.

Long Island College Hospital is an outgrowth of the Brooklyn German General Dispensary, established by Dr. Louis Bauer and four medical associates on Court street in March, 1856. The first staff included two consulting phpsicians; two consulting surgeons and two attending physicians and surgeons. In November, 1857, in order that the institution might assume a broader character, the name was changed to St. John's Hospital and three physicians were named as professors of sur-

POLYCLINIC HOSPITAL.

*Winfield, Long Island Medical Journal, July, 1910.

gery, anatomy and clinical surgery, and midwifery respectively. The next month the name was changed to St. John's College Hospital, but apparently this name failed to find favor, for in October, 1857, the appellation Long Island Hospital and Medical College was adopted. On March 13, 1858, a charter was obtained for the Long Island College Hospital and as such it has been known for the past 55 years. At that time the present location at Amity, Henry and Pacific streets, was purchased and the beautiful mansion standing on the plot of fourteen city lots was utilized for a hospital and teaching college. The first faculty included Louis Bauer, William H. Dudley, Austin Flint, Frank Hamilton and four others. The first graduating exercises were held July 24, 1860, when 21 men received the degree of M. D. Of these two became famous medical missionaries and ten served in the Civil War, six in the Union and four in the Confederate army. Long Island College Hospital became famous for its treatment of sick and wounded soldiers. It was the first hospital in the metropolitan district to receive soldiers and it sheltered many hundreds during the four years of the rebellion. During the Spanish war 420 American soldiers, very many of whom were suffering from malignant typhoid fever, were treated in Long Island with only 12 deaths.

Various additions have been made to the institution from time to time. In 1886 the beautiful Hoagland Laboratory was erected and in 1898 the Polhemus Clinic, a splendid structure of eight stories was completed. The first two stories are used for clinical purposes and the remainder for recitation and lecture rooms and well equipped chemical and physiological laboratories. In 1899 the Dudley Memorial, used as a nurses' home, was presented by Henry W. Maxwell.

The Perry Mansion which after many alterations and enlargement had done yoeman service as the main hospital, a few years ago gave way to the Henry W. Maxwell Memorial, erected in memory of a regent and benefactor, by his brother, J. Roger Maxwell, long a regent of the hospital. It forms one of the most complete hospital plants in the country, comprising four distinct, though connected buildings. The administration building is five stories high and aside from the offices, apartments of the staff, and the like contains two wards containing 24 beds and 46 private rooms. The two great wings, one now constructed and the other in process of erection, contain the male and female wards, operating rooms, children's wards, maternity wards and other necessary adjuncts. The other building is used for a power plant and laundry. In the rear of the hospital is the laboratory, morgue and mortuary chapel.

This summer a building, directly adjacent to Polhemus Clinic, was opened for an outdoor maternity clinic and a genito-urinary clinic. A four story building has been especially adapted for these purposes and is under the direction of Profs. John O. Polak and Henry H. Morton.

A urological building is now being built immediately west of the hospital for the reception of medical and surgical genito-urinary cases. It will contain 60 beds and will be under Prof. Morton's oversight. Aside from Johns Hopkins Hospital, Long Island College Hospital will, we believe, be the only medical school in the country to have a distinctive urological building.

Many well known men have served on Long Island's faculty. Austin Flint, Sr. and Jr., Alpheus B. Crosby, E. S. Dunster, A. J. C. Skene, Charles Jewett and R. O. Doremus recall some of America's foremost teachers and the present faculty contains names widely known as physicians and instructors. McCorkle in medicine,

POLHEMUS MEMORIAL CLINIC.

Rushmore in surgery, Raymond in physiology, Polak in obstetrics, Morton in genito-urinary diseases, Campbell in anatomy, Bartley in chemistry, Winfield in dermatology, West in materia medica, and Van Cott in pathology are a few of the many prominent medical men constituting the teaching force for the 400 students who are enrolled in Brooklyn's time honored hospital and medical college.*

For Teeth Discolored by Iron.

Combe recommends rubbing the teeth lightly, each day once, with a stick that has been covered with cotton and dipped in the following solution:

℞ Fuming Hydrochlor. Acid..... 5.0 grammes
Distilled Water ..... 5.0 grammes
M. ft. Sol.

Following this, for fifteen days use this powder:

℞ Chlorate of Potash..... 5.0 grammes
Prepared Chalk .....10.0 grammes
Orris Powder .....20.0 grammes
Ess. Peppermint and Carmin q. s.
M. ft. Pulv.

Corpus luteum extract is an excellent remedy to induce menstruation in young women suffering from functional amenorrhea. Those who are fat, in addition to regaining menstruation, usually, but not always, lose weight.

*_Surgery, Gynecology and Obstetrics_ of Chicago is entitled to our thanks for its courtesy in furnishing many of the cuts illustrating this article.

Treatment

Hay Fever.

The treatment of hay fever at the present time may be included under five heads: (1) The nasal treatment; (2) the antitoxin treatment; (3) serum treatment; (4) alcohol injections and cauterization; and (5) climatic treatment. No advances have apparently been made since the introduction of pollantin in 1903 by Dunbar, of graminol some time later by Weichardt, and the injections of alcohol along the nasal nerve and its branches, as suggested in 1908 by Stein.

(1) *Nasal Treatment.*—Many hay fever victims are the subjects of nasal malformations and new growths of various sorts. To say that the nose of every subject is abnormal, or that a nasal abnormality exists in every such case would be wide of the truth. The majority of such cases, if examined in the intervals, are found to possess nasal structures apparently normal in every way. Doubtless some nasal abnormality is found to be the underlying cause in a fair proportion of cases, such lesions being obstructive in character, as deflected septa, polyps and polypoid hypertrophies, or inflammatory, e. g., diseases of the nasal accessory sinuses.

In a certain number of cases the correction of the nasal abnormality or cure of the underlying disease will serve to relieve the patient of his attacks. It should be beneficial in all cases. The cases should be carefully examined before the beginning of the expected attack so that there may be complete recovery from any operative interference before the attack has its incipiency. It is superfluous to add that there should be no operative interference during the seizure. Yonge has reported certain good results from the bilateral excision of the nasal tubercle, though he considers that he has tried this procedure on too limited a number of cases to draw too general or definite conclusions.

(2) *The Antitoxin Treatment.*—In 1903 Dunbar, of Hamburg, first published his investigations in regard to a specific antitoxin, later introduced to the profession under the trade name of pollantin. Having previously convinced himself that the disease was due to the pollen of certain grasses, he succeeded in isolating a toxic albuminous substance which reproduced in animals symptoms similar to those observed in human beings. Later by injecting the pollen of certain grasses into horses, he succeeded in producing an antitoxin which, when introduced into the nose and conjunctival sacs of human beings during an attack, caused the disappearance or amelioration of the symptoms of the disease. Pollantin is obtainable in a dry as well as a liquid form. The treatment in predisposed subjects should be instituted seven to ten days before the beginning of the attack and carried out during its progress. A general résumé of the published statistics shows good results in 62 per cent. of cases, fair results in 23 per cent., and no result in 15 per cent. The treatment should be carefully carried out according to the directions which are to be found on each package.

(3) *The Serum Treatment.*—Some time after Dunbar's investigations, Weichardt introduced a serum which is now known under the trade name of "graminol." "Weichardt believed that there existed in the blood of cattle, fed on the grasses ordinarily used for pasture, a substance which might be protective against hay fever. A serum was therefore prepared from the blood of such animals, without any previous inoculation or other preparatory treatment being practiced." According to reports of the German Hay Fever Union there were favorable results in 75 per cent. of cases, while in 38 per cent. there was complete relief.

Alcohol Injections.—In 1908 Otto J. Stein, of Chicago, reported favorable results from the injection of alcohol along the branches of the nasal nerve. The sensory nerves of the nose are derived anteriorily from the nasal branch of the first division of the fifth, posteriorily from the spheno-palatine ganglion. By injecting alcohol into or near these nerves Stein was able to relieve or ameliorate the symptoms in a certain proportion of cases. The technique of the operation presents considerable difficulty in certain cases. Such a procedure would doubtless decrease the sensibility of the nasal membrane, an end which has been sought by other observers by means of cauterizing certain hypersensitive areas on the surface. Killian has cauterized certain areas, the anterior part of the septum, the anterior end of the middle turbinal, the outer wall slightly above the middle turbinal, and the upper part of the septum above the tubercle, with trichloracetic with favorable results.

The Climatic Treatment.—There are certain cases which none of the foregoing procedures seem to relieve. For such the only relief possible is the selection of some locality where the pollen season is later than at the permanent residence of the sufferer, and a sojourn there until after the first frost, when return is fairly safe. A sea cruise during the hay fever season offers similar relief. These measures are attended with no little expense and inconvenience. For the individual of limited means they are quite impossible, and the only recourse is the avoidance, as far as possible, of all dust or pollen-laden air, and the relief, as far as possible, of the various symptoms as they arise. Cities, especially the more densely populated districts, will accordingly be found more favorable localities than suburbs, country villages and towns.

Among agents which give temporary relief may be mentioned cocaine, eucaine, and adrenalin. The former may be mentioned only to be condemned. Whereas it undoubtedly gives temporary relief, the danger, especially the cocaine habit, arising from its use make its employment impossible. Eucaine, while only half as toxic as cocaine, is a vasodilator rather than constrictor, so it does not give the relief derived from cocaine. It should be condemned for reasons similar to those applying to cocaine. Adrenalin, or the allied extracts of the suprarenal gland, gives marked relief, but unfortunately this relief is only temporary. It is a question, too, whether the congestion after the vaso-constriction has passed is not greater than that preceding the use. But this temporary relief is often a great boon to the sufferer and helps him over until the time when the first frost eliminates the pollen and gives him relief. —*Interstate Med. Jour.*

An Etiological Factor in Carcinoma and Its Possible Influence on Treatment.

Howard W. Nowell, of Boston, has isolated an end product of carcinoma which appears to possess remarkable properties. This end product, consisting of long, white, needle-shaped crystals, purified by repeated recrystallization from water, is obtained after the following process is carried out: carcinomatous tissue is freed from fat and other extraneous elements, cut into very small pieces, and digested with water at 100° for many hours. When the digestion is complete, the mass is filtered to remove the exhausted residues, the clear filtrate containing those portions of the tumor which are soluble in water. This filtrate is acidified and boiled, which coagulates the soluble proteins, and the precipitate thus formed is removed. The protein-free filtrate

is exactly neutralized and the solution evaporated on the water bath to a syrup consistency. This syrup is carefully extracted with pure alcohol and the extract, after the removal of the alcohol by distillation, repeatedly treated with ether. This time the ethereal extracts are collected, the solvent removed by distillation, and the final residues again dissolved in water. The aqueous solution is rendered alkaline, boiled for half an hour and again filtered. On the spontaneous evaporation of the filtrate the crystals described separate. Nowell summarizes the results of his observations as follows:

1. A procedure has been developed whereby a substance or substances may be isolated from carcinomata, the method precluding the presence of organic life in the end product.

2. This end product has been shown to be of a highly toxic character.

3. The peritoneal exudate produced by a fatal intoxication is far more toxic than the original substance.

4. The tumor substance has been shown to possess not only a general but also a specific toxicity, since on injection into rabbits in doses of less than lethal amount it will produce well-defined, well-characterized carcinomata, the site of the primary lesion being different from and independent of that of the injection.

5. The appearance of the primary lesion is followed by the development of numerous metastatic foci in different parts of the body, while the characteristic cachexia manifests itself.

6. The poisonous tumor preparation has been shown to be characteristic of carcinomata.

7. By the repeated injection of very small doses a large number of rabbits have been immunized.

8. The serum from the animals thus immunized possesses the power of antagonizing the toxic action of the tumor substance. This has been demonstrated by injections of the serum either previous to or simultaneous with that of the tumor poison. In both events no effect is observed from quantities of the poison which, if injected alone, would produce a rapidly fatal intoxication.

9. With the simultaneous injection of poison and antibody it has been shown that one part of the latter will effectually antagonize 99 parts of the former.—(*Boston Medical and Surgical Journal*, June 5, 1913.)

The Present Status of the Tuberculin Tests.

Charles B. Slade, of New York, thinks that the Moro test, from a clinical point of view, is so unreliable that it is a waste of time to apply it. The subcutaneous injection of tuberculin is undoubtedly the most reliable from a scientific point of view. Clinically it is not absolutely, even when negative. Severe reactions in a considerable number of cases are unavoidable. These reactions may, and do in some cases, cause irretrievable harm; therefore it is not justifiable to employ this method as a diagnostic routine. The Calmette test is probably harmless when applied with unfailing care in the choice of cases; but since it is capable of doing injury to the eye, and since it seems to present no advantage over the von Pirquet test, it should not be employed as a diagnostic routine. The von Pirquet test is undoubtedly harmless and is the only one in which Slade can see no objection to its use as a diagnostic routine, although it is of very little practical value beyond the age of five years. In some rare cases, where the dianosis cannot be reached by any other means and yet, for the patient's interest, it is imperative to either affirm or disprove the presence of tuberculosis, it is justifiable to apply, cautiously, the subcutaneous injection of tuberculin for diagnosis. This applies especially to disease of joints, where the focal reaction can be more easily observed. In employing any of these reactions we should have a broad enough judgment to realize that it is not so much our obligation to determine whether or not a person has tuberculosis, but whether or not his tuberculosis has become a *disease* clinically. When we consider what a large percentage of the human race are infected with the tubercle bacillus at some time, the multiplicity of hypersenitive methods at our disposal for detecting it, and the great eagerness of many physicians to discover it, the wonder is that anyone escapes the diagnosis. It has been clearly demonstrated that it is only necessary for an animal or patient to have had, at some time, a bacillary infection, with or without any resulting lesion, for tuberculin to cause a positive reaction, however administered.—(*Medical Record*, June 14, 1913.)

Anoci-Association in Graves' Disease.

Crile of Cleveland believes that everyone will agree with him that a technique, that can carry an advanced exophthalmic goitre case through an operation, without increasing the pulse-rate, can all the more readily do as much for any other condition.

If ligation is made, it may be performed without removing the patient from his bed. In such a case nitrous oxide may or may not be administered, but a complete blocking of the local field with novocain during the operation is essential, as is also a complete quinin and urea hydrochloride infiltration at the close of the operation

If lobectomy is to be performed, fictitious anesthesia under the guise of an inhalation treatment is administered for several days previous to the operation. On some day then, without his knowledge, but with previous consent, the patient is anesthetized with nitrous oxide in his own room, and so is kept free from preoperative psychic strain. When completely anesthetized the patient is taken to the operating room. The progressive division of tissue is preceded by a progressive blocking with 1-400 novocain, so that no activating impulse may reach the brain. Before the wound is closed the entire raw field is infiltrated in every part with quinin and urea hydrochloride. The patient, while still unconscious, is returned to his room and anesthesia continued until his room is completely restored to its previous condition. In the course of the whole cycle from his room to the operation and return, the brain has received no activating stimuli, and as a result there can be no change in the pulse.

This immediate control, however, is not the end of the benefit to the patient. The postoperative hyperthyroidism is prevented or minimized, that is, the later clinical results are improved equally with the immediate results.

The proof of a surgical principle is found in the clinical results of its employment. In the adoption of this principle at the Lakeside Hospital, Cleveland, Crile has found there is no longer need of a postoperative recovery room; that the work of the nurse has been greatly minimized; that the clinical aspect, both in and out of the operating room, has been altered. Last year Crile and Lower, performed 729 abdominal sections of every grade with a mortality rate of 1.7 per cent. In the Lakeside Hospital service, where all kinds of acute emergencies are met, and where most of Crile's private work is done, there were last year performed by him and his associate, operations on 2,762 patients, with a mortality of 1.9 per cent. In their last 1,000 operations of every kind the mortality was 0.8 per cent., an enviable record.—*Interstate Med. Journal*, June, 1913.

The Physician's Library

Blood-Pressure, From the Clinical Standpoint. By Francis Ashley Faught, M. D., of the Medico-Chirurgical College, Philadelphia. Octavo of 281 pages. Illustrated. Price, $3.00 net. Philadelphia and London: W. B. Saunders Company, 1913.

Despite the great importance of the study of blood pressure, the books on the subject are somewhat few and this one may truthfully and bromidically be said "to fill a long-felt want." We occasionally run across a medical man who scoffs at the sphygmomanometer, but those men will of necessity change their minds, for the value of the instrument more and more is being widely recognized. The author, after a description of the sphygmanometer and its principles and uses, discusses amply hypo and hypertension and the blood pressure in various diseases and classes of disease. He covers the subject thoroughly and gives a most complete bibliography.

Nervous and Mental Diseases. By Charles S. Potts, M. D., Professor of Neurology in Medico-Chirurgical College. Cloth, 600 pages. Price, $2.75 net. Philadelphia: Lea & Febiger, 1913.

This book, now in its third edition, was brought out for the general practitioner, that he might have the important subject of neurology in concise form. The purpose has been well served and one may get a bird's eye view of the subject without reading through much which is valuable but not to the point. This edition recognizes the importance of the Wassermann reaction in some diseases of the nervous system. It also takes up the modern ideas of tic and short descriptions of myotonia atrophica, progressive lenticular degeneration and dysbasia lordotica deformans have been added. Student and physician will find this volume of real help.

The Career of Dr. Weaver. By Mrs. Henry Backus. Cloth, pp. 379. Price, $1.40 postpaid. Boston: L. C. Page & Co., 1913.

This is the story of a clever laryngologist, who by pseudo-commercial methods, works up a large practice. Fee splitting, among other means, makes his clientele a notable one. He is so overcrowded that he calls his younger brother, "Dr. Jim," to assist him. The latter, a conscientious, ethical physican, rebels at the methods of his brother and they finally break. The book, which is cleverly written, has some stirring situations and clearly portrays the lives of the self-advertiser and the high-minded practitioner. A love story adds to the interest in the book.

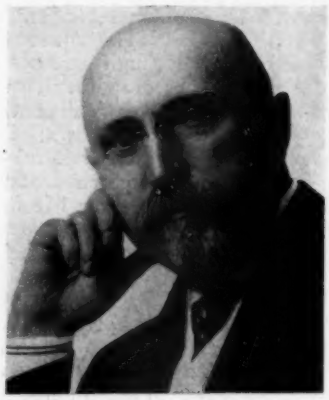
The author is the wife of a prominent Cincinnati lawyer. She shows a wide knowledge of medical subjects and has handled delicate matters with admirable skill.

Sex, Its Origin and Determination. By Thomas E. Reed, M. D. Cloth. 312 pages. New York: Rebman Co., 1913.

This study of the metabolic cycle and its influence in the origin and determination of sex, is not entirely unknown to the readers of the MEDICAL TIMES, as the author contributed a series of articles on the subject in 1906-7.

In this work Dr. Reed shows a coordination and synthesis of the nature of life, reproduction and sex; the latent bisexuality of all animal life and the primitive hermaphroditism of the germplasm and the manifestation of lunar rhythms in labor and their influence on births, deaths, menstruation, gestation and the determination of sex. It is a deep subject, thoughtfully handled.

Every Boy's Book. Every Girl's Book. Echoes of Petrarch. By George F. Butler, M. D. To the physician familiar with the literary work of this gifted poet-physician, it is unnecessary to call attention to these books. But if perchance there be in this wide land a man who knows not of him, to that man we commend these little works. The first two are symphonies in prose, dealing with that which is most sacred in the chaste language of the poet. In likening our antenatal days to the flower, the poet has woven a beautiful web of sheen around the realities of life and, taking away the seeming immodesty as judged by present standards, has revealed the origin of human life in all the beauty and grandeur intended by the Creator.



It is an almost imperceptible change to pass from these studjes of our creation to echoes of Petrarch, a collection of love sonnets of rare delight.

What can be more uplifting in this day of sordid domesticity than this tribute to "my wife?"

> Thou has not prayed for me as others pray.
> What for? Wert not thy love the purest prayer?
> Nor have I sought on bended knees the power
> To lift my lift to a serener day.
> Thy love is master of my work. 'Tis there
> I found the bliss until the present hour.

The man, who is shedding his lustre as medical director at Mudlavia, opens up his great heart and shows that behind the wealth of professional knowledge and scientific attainment, there rests the spirituelle soul of the true poet.

Applied Bacteriology for Nurses. By Charles F. Bolduan, M. D., Assistant to the General Medical Officer, Department of Health, City of New York, and Marie Grund, M. D., Bacteriologist, Department of Health, City of New York. Cloth. 12mo of 166 pages. Illustrated. Price, $1.25 net. Philadelphia and London: W. B. Saunders Company, 1913.

This book, if thoroughly digested, will give the nurse a splendid working knowledge of bacteriology. Its authors, in their work of conserving the health of New York's poor, have had a good opportunity to grasp the practical side of the subject and it is here portrayed in simple language.

As a review for physicians, the book will serve a useful purpose.

Diet Lists of the Presbyterian Hospital, New York City. Compiled with notes, by Herbert S. Carter, M. D., Assistant Visiting Physician to the Presbyterian Hospital. Associate in Medicine at Columbia University, etc. Cloth. 12mo of 129 pages. Price, $1.00 net. Philadelphia and London: W. B. Saunders Company, 1913.

The importance of this book is far in excess of its size. The author has painstakingly set down lists of house, typhoid, salt-poor, purin-free, gastric, diabetic, anti-constipation, low calcium and other diets and has given special recipes to meet given cases.

The little book is a prime necessity to the physician and nurse.

(*Continued on p.* 20.)

Intestinal Antisepsis

has for many years been accepted with growing appreciation as the rational treatment in gastro-intestinal diseases that are the result of fermentation or putrefaction.

The class of remedies possessing the power to arrest the septic process, correct atonic relaxation and allay the inflammation is well represented in

BISMACOL

Each fluid ounce of which represents:

Bismuth Oxide Hydrated	12 grains
Magnesium Salicylate	1 grain
Geranium Maculatum	32 grains
Pancreatin	4 "
Potassium Guaiacol Sulphonate	4 "
Sodium Sulphophenate	1 grain
Chloroform	2 minims
Elm in Mucilage	10 grains

Bismacol is given with every reasonable assurance of success in diarrhea and dysentery, especially in the fermentative and choleric diseases incident to the summer season.

The finely divided Bismuth Magma supplies a uniform coating over the mucous membranes of the entire gastro-intestinal tract.

Bismacol is sedative, antiseptic and astringent without harshness or undue styptic effect that might interfere with the restoration of normal gastric function.

To any physician who has never prescribed Bismacol, or is unable to secure it from the local druggist or supply house, we will send a full size bottle on receipt of 50 cents to cover the delivery and packing expense. The regular price is 80 cents per bottle.

THE WM. S. MERRELL CHEMICAL COMPANY

CINCINNATI

Ophthalmology for Veterinarians. By Walter N. Sharp, M. D., Professor of Ophthalmology in Indiana Veterinary College. Cloth. 200 pages. Price, $2.00 net. Philadelphia and London: W. B. Saunders Company, 1913.

In perusing this book one is impressed by the similarity between human and animal eye diseases. The subject is clearly set forth in this well-edited and printed book, which from the standpoint of comparative anatomy, is of interest to the medical profession.

Golden Rules of Gynecology. By George B. Norberg, M. D., Professor of Diseases of Women and Clinical Gynecology, University Medical College, Kansas City. 250 pages. Octavo. Price, $2.25. St. Louis: C. V. Mosby Company, 1913.

This book is intended as a guide to better gynecological procedure and as such serves its purpose well. It treats the subject tersely and succinctly and shows the investigator how to search for greater things.

Muller's Serodiagnostic Methods. Translated by Ross C. Whitman, M. D., of the University of Colorado. Cloth. 146 pages. Illustrated. Philadelphia: J. B. Lippincott Company, 1913.

In this day of serum therapy, we welcome anything new, and Müller's ideas are refreshing. While he has nothing of a startling nature, his methods are careful and resultful and the little book is certain to find favor with those who work in this fascinating field.

Solidified Carbon-Dioxide. By Ralph Bernstein, M. D., Clinical Instructor in Skin Diseases, Hahnemann Medical College, Philadelphia. Cloth, 95 pages. Illustrated. Hammond, Ind.: Frank S. Betz Co., 1913.

This monograph quite completely covers the field in which carbon-dioxide can be used. The author employs it in a wide variety of dermatological conditions with excellent results and his enthusiasm convinces the reader of the book that carbon-dioxide is a therapeutic weapon of more than usual value.

Laboratory Methods. By B. G. R. Williams, M. D., and E. G. C. Williams, M. D. Second edition. Cloth, 210 pages. Illustrated. Price, $2.50 net. St. Louis, C. V. Mosby Company, 1913.

The second edition appears less than a year after the first, a good sign. There has been added the albumin sputum test for tuberculosis, Bass and Watkin rapid Widal method, Noguchi's butyric acid test for syphilis and the urobilinogen test for hepatic function. The authors have also made a further and successful endeavor to meet the needs of the analyst not familiar with laboratory methods.

BOOKS RECEIVED.

All books received will be acknowledged in this column, and those which warrant further notice will be given a more extended review in a later issue.

Progressive Medicine. Vol. XV, No. 2, June, 1913. Edited by Hobart Amory Hare, M. D., and L. F. Appleman, M. D., of Jefferson Medical College. Paper, 450 pages. Price, $6.00 per annum. Published in 1913 by Lea & Febiger, Philadelphia.

Traitê du Sang, publié sous la direction de M. A. Gilbert, professeur de clinique médicale à l'Hôtel-Dieu de Paris, et M. Weinberg, chef de Laboratoire à l'Institut Pasteur. 2 vol. gr. in-8 avec figures noires et coloriées. En vente tome Ier. Le tome II paraîtra en octobre. En souscription: 42 fr. Published in 1913 by J. B. Baillière et fils, 19, rue Hautefeuille, Paris.

Therapeutics of the Gastro-Intestinal Tract. By Dr. Carl Wegele. Edited and adapted by Drs. Maurice H. Gross and I. W. Held of Har Moriah Hospital, New York. Cloth, 325 pages. Illustrated. Published in 1913 by Rebman Company, New York.

Electricity in Diseases of the Eye, Ear, Nose and Throat. By W. Franklin Coleman, M. D., M. R. C. S., Eng., Professor of Ophthalmology in the Chicago Post Graduate Medical School. Cloth, 600 pages. Illustrated. Published in 1913 by Courier-Herald Press.

"Collected Papers" by the staff of St. Mary's Hospital (Mayo clinic) 41912, cloth, 842 pages, 219 illustrations. Price $5.50 net. Published in 1913 by W. B. Saunders & Co., Philadelphia and London.

"Surgical Clinics" of John B. Murphy, M. D., Mercy Hospital, Chicago, Volume II, No. 3, $8.00 per year, published by W. B. Saunders Co., Philadelphia and London.

"Report of the Commissioner of Education of the United States," for the year ended June 30, 1912, cloth, 670 pages, published in 1913 by the Government Printing Office, Washington, D. C.

"Transactions of The Fifth International Sanitary Conference of The American Republics" held at Santiago de Chile, November 5th to 11th, 1911, cloth, 165 pages. Published and distributed under the auspices of the Pan American Union, John Barrett, Director-General, Washington, D. C.

Treatment of Sexual Impotence and Other Sexual Disorders in Men and Women. By William J. Robinson, M. D., Chief of the G. U. and Dermatological Departments of Bronx Hospital. Cloth, 422 pages. Price, $3.00 net. Published in 1913 by Critic and Guide Co., 12 Mt. Morris Park, W. New York.

Hygiene and Sanitation. A Text Book for Nurses. By George M. Price, M. D., Director of Investigation, New York State Factory Commission. 12mo, 236 pages. Cloth, $1.50 net. Published in 1913 by Lea & Febiger, Philadelphia and New York, 1913.

The Modern Treatment of Nervous and Mental Diseases. By eminent American and British authors. Edited by William A. White, M. D., Superintendent of the Government Hospital for the Insane, Washington, D. C.; and Smith Ely Jelliffe, A. M., M. D., Ph. D., Adjunct Professor of Diseases of the Mind and Nervous System in the New York Post Graduate Medical School and Hospital. Two octavo volumes, containing about 900 pages each, illustrated. Per volume, cloth, $6.00 net. Published in 1913 by Lea & Febiger, Publishers, Philadelphia and New York.

A Text Book of Biology. By William Martin Smallwood, Ph. D., Professor of Comparative Anatomy in Syracuse University. Octavo, 285 pages. Illustrated with 243 engravings and 13 plates, in colors and monochrome. Cloth, $2.75 net. Published in 1913 by Lea & Febiger, Philadelphia and New York.

Diseases of the Stomach. By George Roe Lockwood, M. D., Professor of Clinical Medicine in the Columbia University. Octavo, 624 pages, with 126 engravings and 15 plates. Cloth, $5.50 net. Published in 1913 by Lea & Febiger, Philadelphia and New York.

THERAPEUTIC MEMORANDA.

Local Anesthesia in Strangulated Hernia.—John S. Singley, surgeon to the Pittsburgh Hospital, Pittsburgh, in discussing "the operative technic of strangulated hernia" before the 1912 meeting of the Medical Society of the State of Pennsylvania (*Penn. Med. Jour.*, Feb., 1913), said "a large proportion of the cases can and should be operated upon with the aid of local anesthesia. Morphine sulphate 1/6 to ¼ grain, with atropin sulphate 1/100 grain are to be given 20 minutes before the operation is begun. A sterile screen between the face of the patient and the operative field is of considerable aid. For the local anesthetic, Novocain, 1:1000, boiled and used with the greatest freedom as to quantity, is preferred."

Prevention of Shock.—In discussing Crile's treatment of shock, the *Medical Standard* for March, 1913, thinks that the harmful changes in the brain, which are the precursors of shock, constitute one of the most unpleasant conditions subsequent to the operation. It observes that "the elimination of the factor of fear is an extremely important one and can be entirely accomplished only by the most careful co-operation upon the part of the nursing and operating staff. If we can prevent fear and obtain an innocuous substitute for ether, and block harmful nerve impulses from the brain, we have a condition best described by the word anoci-association, that is, one in which the patient is both mentally and physically protected from nocuous impulses or influences." Dr. Crile uses Novocain for the purpose of blocking off and in consequence he obtains practically no shock following his operations.

Local Anesthesia by the Infiltration Method.—O. S. Fowler of Denver has presented a careful discussion of this subject in the *Denver Med. Times* for January, 1913. After discussing the history of local anesthesia and its indications he takes up the various methods of administration, including the infiltration and intravenous methods. His success following these means of local anesthetization has been so marked that he has given this form a wide range of usage. He says, "I am sure that the lack of a more general adoption (of local anesthesia) is due to the fact that too many physicians are not thoroughly conversant with its application in major surgery, or are simply prejudiced against it, and do not perfect themselves in its technic. I am glad to know that the nose, throat and eye men are using it much more regularly and with uniformly good results and satisfaction. The choice of the anesthetic is wholly a personal question. Cocain has been the sheet anchor for many years but it is undoubtedly more dangerous than Novocain or quinine and urea. Novocain is reputed to have only 1/7 the toxicity of cocain. Personally I use Novocain entirely in ½ to ¼ per cent solutions with 9 drops of adrenalin, 1:1000 to each 100 Cc., and find that this answers every demand. If I do not get perfect anesthesia, I feel the fault is mine in the administration and not the fault of the drug." Dr. Fowler has successfully used Novocain in over 200 cases which include 33 herniotomies, appendectomies, suprapubic cystotomies, removal of large lipomata and orchidectomies, etc.

Pyramidon, Melubrin, Albargin, Salvarsan, Neosalvarsan and many other well known drugs in addition to Novocain are sold by the American agents, the Farbwerke-Hoechst Company, New York City.

Cystogen $C_6H_{12}N_4$

A preferred product of hexamethylene tetramine remarkably free from irritating properties.

PHYSIOLOGICAL ACTION

Genito-urinary antiseptic and uric-acid solvent in doses of gr., V-X t. i. d.; increases the excretion of urine and of uric-acid. It causes the urine to become a dilute solution of formaldehyde with antiseptic properties. Specially valuable as a diuretic and urinary-antiseptic in cystitis, pyelitis, phosphaturia, before surgical operation on the urinary tract; during the course of infectious diseases to prevent nephritis; and as a solvent and eliminant in rheumatism and gout.

When given in large doses, gr. X to XV, four times daily, it is found in the saliva, secretions of the middle ear and nose, cerebrospinal fluid, bile; in short, in practically all secretions and excretions of the body, and hence its use as an antiseptic is indicated in Rhinitis, Otitis Media, Sinusitis, Bronchitis, Influenza and many other conditions which will at once occur to the clinician.

Supplied as

Cystogen Crystalline Powder.
Cystogen—5 grain Tablets.
Cystogen-Lithia (Effervescent Tablets).
Cystogen-Aperient (Granular Effervescent Salt with Sodium Phosphate).

Samples and literature on request

CYSTOGEN CHEMICAL COMPANY
515 Olive Street, St. Louis, U. S. A.

The Radio Active Content of Certain Indiana Mineral Waters.

Dr. H. E. Barnard, Chemist of the Indiana State Board of Health, writes in the *Indianapolis Medical Journal* that Indiana has a large number of mineral waters to which are ascribed special value both because of their potability and therapeutic properties.

Indiana waters are usually nonthermal and of the alkaline-saline class, sulphuretted and heavily sulphurated. The therapeutic value of many of these waters has long been noted, and some of them are largely used in the treatment of certain diseases.

With the discovery of radium and its emanations which in solution causes waters to become radio-active, there is now afforded an explanation of the unusual efficacy of mineral waters in the treatment of certain diseases.

The undisputed success of the spa treatment for certain diseases has long been attributed to the striking regime and favorably climatic conditions of the individual spas, but some years ago it was noted that nearly all the waters of the well known spas in Europe whose waters are efficacious for gouty and rheumatic troubles contain radium emanation in solution.

In the analysis of these waters it was found that the waters of highest therapeutic value were highest in radio-active content.

The radio activity of American spring waters until recently has been given little or no attention. In 1908 Schlundt and Moore studied the radio-active content of the springs in Yellowstone National Park, and as yet unpublished data indicates the presence of radium emanations in many of the spring waters of the country. Thus the waters at the well known Saratoga Springs are slightly radio-active, and the same report has been made following the analysis of waters from the Hot Springs of Arkansas.

In the course of studies of the water supplies of Indiana it was deemed advisable to investigate the radio-activity of the French Lick waters. The tests were conducted at the springs by Herman Schlundt, Professor of Physical Chemistry at the University of Missouri. The results obtained show conclusively that all the springs are distinctly radio-active.

The activity of Pluto water at the spring pavilion was found to be 1.35 Mache units; that of Proseprine, 1.96; the water of the Bowles spring is distinctly more active, its activity being 4.45 units. The radio-active properties of these springs are due to the presence of radium emanation that has found its way into the water in the course of its underground flow.

The following table will be of interest as it shows how the activity of the springs at French Lick compares with well known European mineral waters of similar character:

Name of Spring and Location.	*Activity; Mache Units.*
Rakocszy, Kissingen	2.86
Cannstadd, Wurtemburg	0.55
Kaiserbrunnen, Homburg	2.8
Kaiserbrunnen, Karlsbad	2.54
Franz Josephsquelle, Karlsbad	1.76
Pluto, French Lick	1.35
Proserpine, French Lick	1.96
Bowles, French Lick	4.45

The tabulated results show that the radio-activity of the springs at French Lick is of the same order as the European springs to which these waters are closely allied in composition and therapeutic value.

It is not yet possible to determine just how radium emanations act on the body. It is known that radium emanations stimulate metabolism. The uric acid metabolism in gouty patients show a decided change under the influence of the emanation treatment. Gudzent found that the uric acid entirely disappeared from the blood in thirteen or fourteen cases examined before and after treatment.

Lowenthal found in one patient under emanation treatment a marked increase in the uric acid excretion.

W. Armstrong reports good results following the use of strong radio-active water, both for drinking and for bathing purposes, in diabetes, glycosuria, albuminuria, arteriosclerosis, gout, rheumatism, arthritis, neuritis, neurasthenia and general loss of vitality, autointoxication, and sympathetic nerve and vasomotor troubles, such as angioneurosis.

The radium emanations have been used in a variety of pathological conditions with varying degrees of success, but the results obtained in gout have been so striking, and so in accord with the laboratory finding, that they warrant further confirmation. Radium itself is so expensive that it is beyond the reach of the practitioner. The radio-active waters are easily obtainable and are in such a form that they may be freely prescribed.

Artificial Respiration.

S. K. Meltzer, New York (*J. A. M. A.*, May 10), recalls the fact that in a preliminary note about a year ago he described a simple method of artificial respiration which proved successful in animals by driving air rhythmatically by bellows through a tube introduced into the pharynx. While this proved effective in dogs, rabbits, cats and monkeys it failed in human beings, since in them the pressure on the superhyoid region did not sufficiently restrict the escape of air through the mouth and nose. In the present article, which is illustrated, he describes two methods of causing effective respiration, that is, causing rhythmatic introduction of air into the lungs in man and even in the rigid or frozen cadaver. He calls these methods the pharyngeal and mask devices. The first, together with the apparatus required, is described in greater detail. The apparatus consists of a metal pharyngeal tube, a respiratory valve, a foot bellows or oxygen tank and a safety valve; and, as accessories, a tongue forceps, a stomach tube, heavy weights and a belt. The heavy weight is placed on the abdomen to prevent the entrance of air into the stomach to any great extent and the belt is used to reenforce the pressure. When for any reason the weight cannot be used, a stomach tube of large diameter should be passed through the esophagus into the stomach for the escape of air. The opening of the pharyngeal tube introduced through the mouth is shaped so as to be brought reliably into the nasal pharynx and mouth, but a hole is provided for the stomach tube if needed, which can be closed by a movable plate. With the mask method every other part is the same as in that for the pharyngeal tube, except that instead of introducing a tube into the pharynx a well fitting mask is tied to the face. It is more especially suited for emergency cases than the pharyngeal method. The devices he describes, he says, can be readily combined with the Schafer methods of manual artificial respiration and they are simple and inexpensive. Their efficiency has been tested, he thinks, to a much greater extent than that of any other device he knows of. While the use of the pharyngeal method requires some training, the mask method is so simple that laymen can be intrusted with its use.

BATTLE CREEK SANITARIUM

AN EDUCATIONAL CENTRE
At the Head of a World-Wide Movement For Physical Betterment

Doctor, we want you to come to Battle Creek, because we want you to understand what the Battle Creek Sanitarium really is.

This is not a Sanitarium in the ordinary sense of the word. It is an educational institution organized and equipped and managed for the promulgation of the principles of health-rebuilding by means of natural physiological methods. The physician who comes here—no matter how many hospitals he has attended or how many other Sanitariums he has visited, will be delighted to see the vast extent of our facilities. His stay here will be like a Post-Graduate Course in a dozen different institutions all in one.

The PHYSICIAN'S BOOK, in its 215 pages, presents a brief survey of the Sanitarium, but nothing but a visit here will give an adequate understanding of the far reaching purposes and effects of the Sanitarium. **The Physician's Book is mailed free on request to any physician.**

Meanwhile, if you have a patient who is not making the progress which you desire, we invite you to correspond with us about the case, and let us explain to you how we control the environs and associations and habits of those in our care in such a way as to produce the expected results.

The Sanitarium, Dept. 335. Battle Creek, Mich.

Dept. 335
The Sanitarium
Battle Creek, Mich.
Without obligating me, please send Physician's Book

Name .....
Address.....
City.....
State.....

The best preventives and the best remedies for
PULMONARY TUBERCULOSIS
are
CLEANLINESS SUNLIGHT GOOD FOOD

But the food must be digested and assimilated: to stimulate the centres of assimilation and nutrition there is no better remedy at the physician's service than

Wampole's Preparation of Cod Liver Extract

The Best of Reconstructive Tonics

It builds up the run-down patient, allays the cough and assists Nature in overcoming the invading bacilli.

PREPARED SOLELY BY

HENRY K. WAMPOLE & CO., Inc.

Manufacturing Pharmacists **PHILADELPHIA, U.S.A.**

AUGUST CLINICS, DEPARTMENT OF PUBLIC CHARITIES.

MONDAYS.

Cumberland Street Hospital (Brooklyn)—		
Surgery	Dr. Walmsey	3:00 P.M.
Laryngology and Rhinology	Dr. Stewart	4:00 P.M.
Oral Surgery	Dr. Shea	4:30 P.M.

TUESDAYS.

Neurological Hospital—		
Neurology	Dr. Byrne	9:00 A.M.
Cumberland Street Hospital (Brooklyn)—		
Ophthalmology and Otology	Dr. Warner	3:00 P.M.
Surgery	Dr. Iler	3:00 P.M.
Kings County Hospital (Brooklyn)—		
Surgery	Dr. Bogart	8:30 A.M.
Genitourinary Surgery	Dr. Morton	2:00 P.M.
Genitourinary Surgery	Dr. Fraser	2:00 P.M.
Coney Island Hospital—		
Surgery	Drs. Fisk and Bogart	10:30 A.M.
Surgery	Drs. Murphy and Lack	10:30 A.M.
Medicine	Drs. Hall and Nash	3:30 P.M.
Medicine	Drs. Hegeman and Byington	3:30 P.M.

WEDNESDAYS

City Hospital—		
Genitourinary Surgery	Dr. Greene	2:00 P.M.
Obstetrics	Dr. Dorman	2:30 P.M.
Neurological Hospital—		
Neurology	Dr. Maloney	10:00 A.M.
Cumberland Street Hospital (Brooklyn)—		
Gynecology	Dr. Pierson	2:30 P.M.
Kings County Hospital (Brooklyn)—		
Dermatology	Dr. Winfield	1:00 P.M.
Orthopedics	Dr. Truslow	9:00 A.M.
Orthopedics	Dr. Napier	2:00 P.M.
Coney Island Hospital—		
Pediatrics	Drs. Beck and McQuillan	3:30 P.M.
Pedriatics	Drs. Pendleton and Van Wart	3:30 P.M.

THURSDAYS.

City Hospital—		
Gynecology	Dr. Child	2:00 P.M.
Dermatology	Dr. Gottheil	3:00 P.M.
Cumberland Street Hospital (Brooklyn)—		
Surgery	Dr. Walmsey	3:00 P.M.
Laryngology and Rhinology	Dr. Stewart	4:00 P.M.
Kings County Hospital (Brooklyn)—		
Surgery	Dr. Bogart	8:30 P.M.
Otology	Dr. Alderton	1:00 P.M.
Coney Island Hospital—		
Gynecology	Drs. McEvitt and Mills	10:30 A.M.
Gynecology	Drs. Mayne and Rankin	10:30 A.M.
Surgery	Drs. Fiske and Bogart	10:30 A.M.
Surgery	Drs. Murphy and Lack	3:30 P.M.

FRIDAYS.

City Hospital—		
Laryngology and Rhinology	Dr. Dougherty	2:30 P.M.
Obstetrics	Dr. Dorman	2:30 P.M.
Neurological Hospital—		
Neurology	Dr. Abrahamson	9:00 A.M.
Cumberland Street Hospital (Brooklyn)—		
Ophthalmology and Otology	Dr. Warner	3:00 P.M.
Surgery	Dr. Iler	3:00 P.M.
Surgery, Oral	Dr. Shea	4:30 P.M.

SATURDAYS.

Neurological Hospital—		
Neurology	Dr. Walsh	2:00 P.M.
Kings County Hospital (Brooklyn)—		
Surgery	Dr. Bogart	8:30 A.M.
Gynecology	Dr. McNamara	1:30 P.M.

Typhoid fever is more frequently accompanied by hypotension than any other acute infection. The systolic pressure averages 90 to 100 mm. In case of hemorrhage, the fall becomes more marked; but the pressure is rapidly sustained upon the arrest of hemorrhage, whether this occurs spontaneously or by operation.

Physicians' Patients

may be sent to MUDLAVIA with the full assurance that they will be as well taken care of as though their physician accompanied them. We appreciate the co-operation of the physician and are glad to receive his advice, and report to him the condition of patients that he may send to us.

The Mudlavia Treatment

is now administered under the direction of Dr. George F. Butler, whose reputation is firmly established with the profession, and he has gathered about him an able corps of assistants.

The laboratory is complete and the entire Medical department in keeping with the other splendid service of this institution.

Physicians are invited to write freely for advice and information.

George F. Butler, A.M., M.D.

Medical Director Mudlavia

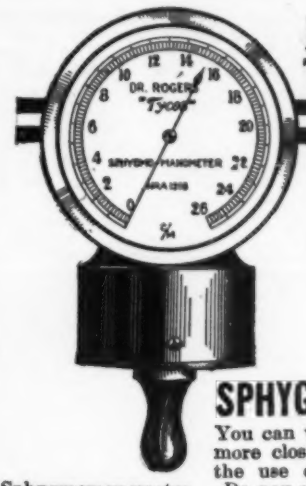
Kramer, Ind.

The Pharmacopeia.

Under the head of "A Last Plea for a Useful Pharmmacopeia," O. T. Osborne, New Haven, Conn. (*Journal A. M. A.*, May 10), asks what determines the best drug and criticises the pharmacopeia and some of the methods of the committee on revision. He thinks too little attention was given to recommendations of medical societies and a large number of therapeutically useless drugs contained in prescriptions considered are recommended to be officialized. The organizations of the committees are also criticized in that in one which is the court of last resort there is only one physician who practises at the bedside, one medical laboratory expert, one drug laboratory expert and one food and drug expert, the others all being interested in some branch of pharmacy. At this date, he says, the new pharmacopeia will contain at least 845 drugs and preparations; about half of them not needed. He gives a list of some considered by him as useless drugs and the reason for so ranking them. Other accepted preparations, also listed, are pharmacologically and therapeutically inferior to other similarly acting ones and some are practically duplicated.

The Fatality of Scarlet Fever.

Scarlet fever, with 5,243 deaths, or 8.8 per 100,000 population, was considerably less fatal than during the years 1908 to 1910, in which the death rates ranged from 11.4 to 11.9. The States reporting the highest mortality from scarlet fever in 1911 were Utah, 14.5 per 100,000 population; New York, 12.6; Rhode Island, 10.4; and Ohio, 10.3. Among the large cities, Cleveland had the highest death rate, 33; followed by St. Louis, 27.7; Syracuse, 26; Rochester, 22; and Chicago, 21.9.



It Slips In The Pocket

Anticipate Cerebral Hemorrhage in Patients with High Blood Pressure

DR. ROGERS'

"Tycos"

SPHYGMOMANOMETER

You can watch these patients much more closely and conscientiously by the use of the Dr. Rogers' *Tycos* Sphygmomanometer. Do you realize that fully six-tenths of the neurotic patients have a blood pressure of from 175 to 225? The chance of cerebral hemorrhage is great. Watch it with a Dr. Rogers' *Tycos* Sphygmomanometer.

Send for descriptive booklet.

Price, complete in handsome morocco carrying case, $25.00

For sale by Surgical Instrument Dealers everywhere.

Blood Pressure Technique, Simplified (a book), just what its title implies. Full of practical information. Price $1.00.

Taylor Instrument Companies

Rochester, N. Y.

"Where Tycos Thermometers Come From"

French Lick Springs Hotel

FRENCH LICK, INDIANA

An Ideal Place for Patients to Convalesce

CORRECT IN ALL ITS APPOINTMENTS

Special Attention to Diseases of the Stomach, Kidneys and Bladder

Accommodation for 600 People

Horseback Riding, Driving, Golf, Dancing, Mineral Bathing

Table supplied by its own Farm and Dairy

Send us your overworked patients who need a change

FRENCH LICK is easily reached from New York, Chicago, St. Louis, Louisville, Indianapolis and Cincinnati.

The Home of

PLUTO

Drink It!

Prescribe It!

WRITE FOR BOOKLET.

THOS. TAGGART, Pres.

RESPIRAZONE

Should be the Physician's first thought in Either Acute or Chronic.

HAY FEVER AND ASTHMA

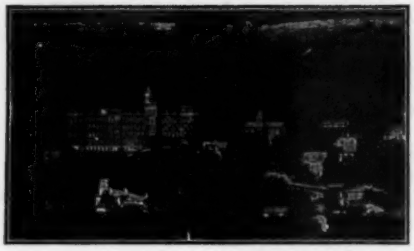
Samples to the Profession upon application.

THE TILDEN COMPANY Manufacturing Pharmacists and Chemists

New Lebanon, N. Y. - - - - - St. Louis, Mo.

FOR SEEKERS
AFTER
HEALTH
AND
REST

A Real Health Resort for those who are Sick, and a Real Rest Resort for those who are Tired Out



SITUATED
AMID
DELIGHTFUL
AND PICTURESQUE
SCENERY

Large, modern, fire proof main building, equipped with every appliance for sanitation, comfort and treatment.

Cuisine the best—Rates moderate.

Complete medical staff in constant attendance.

8 Hours from New York and Philadelphia.
2 Hours from Buffalo by Lackawanna R.R.

2 Hours from Rochester by Erie

Send for Literature

The Jackson Health Resort, Dansville, New York

To Promote Digestive Tone.

When the functional activity of the digestive tract has been impaired by concomitant diseases, and on this account, the nutritive processes are unable to serve the body effectually, Seng is always indicated. This preparation is derived from Panax (Ginseng) and is pleasant to take as well as promptly active in enticing an appetite, gently stimulating the flow of digestive secretions, and giving tone to the organs of digestion generally. Sen acts along the line of "physiological suggestion" rather than as a substitute for the digestive ferments. In other words, it promptly stimulates the secretory activity of the stomach and intestines, so that there is a speedy return to normal physiological functionating. The dose, one to two teaspoonfuls, may be administered before or during a meal. When given alone, it is preferably administered in a small amount of water. The significance of loss of appetite as a forerunner of many serious diseases, is well appreciated by the astute diagnostician and clinician. It is in such instances that Seng is valuable in greatest measure as a dependable prophylactic. By stimulating flagging digestive and assimilative functions in the beginning, it often prevents what would surely be serious and intractable nutritional disorders later.

Mixed Bromides Desirable.

The reliability, as a sedative, of Peacock's Bromides, is based upon the fact that only pure salts are employed in this compound, and each of its five bromides enhances the action of the others. The most frequently used bromide has long been the potassium salt; although it is well known to be somewhat depressing to the heart and injurious to the stomach in cases where its use is deemed necessary for a considerable length of time. This may be almost entirely avoided by administering it as combined in Peacock's Bromides, a preparation which assures the highest possible degree of therapeutic action with the least possible tendency toward "bromism;" hence the doctor may feel confident in prescribing Peacock's Bromides that he is ordering only the purest salts and getting 15 grains to the dram. of the desirable combination of Ammonium, Calcium, Lithium, Potassium and Sodium Bromides—in a most delightful elixir. This vehicle effectively covers the natural acridness of the bromides and proves highly satisfactory to the patient. By ordering the original, eight-ounce bottle, from his druggist, the careful physician will ensure his patient getting the five salts in purest, pleasantest form.

WATCH the UREA INDEX

A SMALL ELIMINATION OF UREA WILL GIVE SYMPTOMS VARYING FROM A SLIGHT HEADACHE to UREMIC CONVULSIONS

In **BRIGHTS** and other CASES of **NEPHRITIS** the UREA ELIMINATION Can be RAISED, using

NEPHRITIN
·RE-ZYME·

If Interested SEND FOR Samples and Literature ·

REED & CARNRICK
42-46 GERMANIA AVE.
JERSEY CITY, N.J.

The Non-toxic Bactericide

PYXOL

Rideal-Walker Co-efficient 20

although equal to bi-chloride of mercury as an antiseptic and bactericide, is absolutely non-poisonous in all dilutions necessary to ensure complete disinfection (1-1000 to 1-500).

For vaginal and uterine douching (1-1000) it will be found invaluable.

Unlike bi-chloride of mercury and formalin, pyxol retains its efficiency in the presence of tissue albuminoids.

Pyxol 1-1000 is equal in bactericidal efficiency to 2% carbolic acid.

Samples and pamphlet on application to the

BARRETT MANUFACTURING COMPANY

Pyxol Department 17 Battery Place, New York

Tuberculosis of Large Arteries.

S. R. Haythorn, Pittsburgh (*J. A. M. A.*, May 10), remarks on the importance of tuberculous lesions of the vascular system as points of distribution of bacilli in cases of general miliary tuberculosis. He says that four types of tuberculous lesions of the aorta and its main branches have been described: (1) miliary tuberculosis of the intima; (2) polypi of tuberculous tissue attached to the intima; (3) tuberculosis of the wall, involving the several layers; and (4) aneurysms, the walls of which are composed of tuberculous tissue. The first is by far the most common, usually alone but sometimes combined with the other types, and he refers to cases of both these types in the literature. Under the third type are included all tuberculous lesions affecting the several layers of the wall and the literature of these cases is also briefly noticed. Of the fourth and the last group he has been able to find only four cases on record and these are noticed more fully for the purpose of comparison with the case he reports himself. This example was obtained in an autopsy at the Boston Municipal Tuberculosis Hospital in Mattapan. The patient succumbed to general miliary tuberculosis and aortic aneurysm which occurred in a more chronic form of the disease. The details of the autopsy are given quite fully. The aneurysm occurred on the right common iliac artery; it measured 7cm. in length, 4 in breadth and 3 in thickness, and included the bifurcation of the internal and external iliac arteries. It was also attached to the vertebral column, from which it is possible it may have arisen in a caries of the bone. Haythorn believes that the tuberculous process spread directly to the adventitia of the right common iliac artery from some nearby focus; "that it so involved the media as to lead to rupture; that the pressure of the blood pouring through the opening separated the inner layers of the media from the outer layers and the adventitia, thus producing a sort of dissecting aneurysm; that the blood in the sac thus formed underwent coagulation and became infected from the tuberculous adventitia, and served as a medium for the growth of the tubercle bacilli and as a source of constant supply of them to the blood. In this way the marked variation in the age of the miliary tubercles of the organs is satisfactorily explained."

The Therapeutics of Veronal.

William House, of Portland, Oregon, calls attention to the increasing use—and abuse—of veronal. It is prescribed by physicians in an increasing variety of cases. The druggist dispenses it freely and the layman has learned to ask for it. Harm mingles with the good it does. House gives the following indications for the drug: insomnia and extreme nervous restlessness; specifically, neurasthenia, psychasthenia, acute alcoholism, maniacal excitement, epileptic mania, paresis with excitement, extreme melancholia, especially with suicidal tendencies or refusal of food, withdrawal treatment of morphinism and cocainism, hysteria and probably seasickness, severe chorea and vomiting of pregnancy. Its contraindications are acute nephritis, extensive heart lesion of any kind, especially myocarditis and aortic regurgitation and insomnia due to pain. It should also be used cautiously in any condition in which the urine is dark and scanty, chronic interstitial nephritis, heart lesions fully compensated; old age, in which it may be invaluable, but should be tried cautiously at first; any condition in which blood-pressure is abnormally low. Clinically veronal appears incompatible with calomel if administered near together.—(*The Therapeutic Gazette*, May 15, 1913.)

LONG ISLAND
AS A HEALTH RESORT

Few people are probably aware of the fact that they can find on Long Island a climate that for sunshine and dryness of atmosphere will rank with such noted health resorts as Denver, Col., Los Angeles, Cal., Santa Fe, N. M., and Jacksonville, Fla.

LeGrand N. Denslow, M. D., in an address read before the section on Medicine of the New York Academy of Medicine, and published in the "Medical Record," says in part:

"The question of the amount of sunlight is of the highest importance in estimating the value of a health resort. The amount of sunshine on the east end and south shores of Long Island is the most remarkable characteristic of the climate, there being one hundred more clear days than New York City."

"The equable temperature of the Long Island climate makes it a favorite place of residence for thousands from the interior cities of the country."

"Its best field as a health resort would be in those cases of heart, lung, kidney and rheumatic troubles, in which rapid oxidation is desired in a sunshiny, dry, slightly stimulating climate, where from four to six months almost every day may be with comfort passed out of doors."

The temperature of Long Island is twenty degrees cooler than New York City. The Reason: Long Island extends far out at sea. The 125 miles of sea coast lies east and west, thus meeting the south and southwest winds off the Atlantic Ocean at nearly a right angle.

For copy of book on Long Island Resorts, or pamphlet on the climate of Long Island, by Dr. Denslow, send ten cents to the General Passenger Agent, Long Island Railroad, Room 371, Pennsylvania Station, New York City.

LEADING NEW YORK HOTELS

"THE DOWN TOWN HOTEL"

COSMOPOLITAN
HOTEL

West Broadway and Chambers Street

Within easy access of all subway and elevated railway lines in the city.

ROOMS $1.00 PER DAY AND UP.

EUROPEAN PLAN

FIRST CLASS

Restaurant & Lunch Room

EXCELLENT SERVICE—FINE MUSIC

PRICES POPULAR

IN THE HEART OF NEW YORK

HERALD SQUARE
HOTEL

34th Street and Broadway

One block from New Penn. R.R. Station. Baggage free to and from this station,

EUROPEAN PLAN

Absolutely Fire Proof. All Modern Improvements

Telephone in Every Room

Rooms, with detached bath, - 1.50 per day up
Rooms, with private bath, - 2.00 " "

Ladies' and Gentlemen's Restaurant

Gentlemen's Cafe. ***UNEXCELLED SERVICE***

PRICES MODERATE

C. F. WILDEY & SON, Proprietors